www.idom.es



# ESTUDI DE **DELIMITACIÓ I ACTIVITAT** DE L'**ABOCADOR DE CAN PLANAS.**

# **ANÀLISI** DE SOLUCIONS**.**

# DEFINICIÓ DE LA **SOLUCIÓ** ADOPTADA A NIVELL D'**AVANTPROJECTE**

## **FASE III. AVALUACIÓ DE RISCOS AMBIENTALS I PRIMERA PROPOSTA D'ALTERNATIVES**

## INFORME CONFIDENCIAL

v.2

24 de Novembre de 2008

N.E. 13.506



CONTÉ:

1. INTRODUCCIÓ I ANTECEDENTS ..... 7

2. ABAST I LIMITACIONS DE L'ANÀLISI DE RISCOS ..... 8

3. MARC LEGAL APLICABLE ..... 9

*3.1.1 Sòls ..... 9*

*3.1.2 Aigua subterrània ..... 9*

*3.1.3 Gasos (soil gas) ..... 9*

4. METODOLOGIA ..... 11

4.1 Desenvolupament de l'Anàlisi Quantitatiu de Riscos (AQR) ..... 13

*4.1.1 Definició del model conceptual de l'emplaçament i escenaris d'exposició ..... 13*

*4.1.2 Avaluació de l'exposició ..... 14*

*4.1.3 Avaluació de la toxicitat dels compostos involucrats ..... 16*

*4.1.4 Caracterització del risc ..... 17*

*4.1.5 Riscos associats a exposicions agudes i explosivitat ..... 18*

*4.1.6 Establiment de concentracions admissibles ..... 19*

*4.1.7 Mesures de gestió del risc ..... 19*

5. LIMITACIONS DE L'ANÀLISI DE RISCOS ..... 21



6. AVALUACIÓ DE RISCOS SOTA LA SITUACIÓ ACTUAL A L'ENTORN DE L'ABOCADOR DE CAN PLANAS ..... 22

6.1 Usos sobre el rebliment d'abocador ..... 22

6.2 Àrea Parc Tecnològic i nucli urbà de Cerdanyola del Vallès ..... 24

*6.2.1 Exposició a gasos provinents de la massa de rebliment per dispersió atmosfèrica ..... 24*

*6.2.2 Exposició a gasos provinents de l'aigua subterrània en terreny natural ..... 25*

6.3 Usuaris dels pous d'extracció existents a l'entorn de l'abocador ..... 27

6.4 Resultats ..... 28

7. DESENVOLUPAMENT DE L'ANÀLISI DE RISCOS EN L'ÀMBIT DE L'ABOCADOR DE CAN PLANAS (PLA URBANÍSTIC APROVAT) ..... 30

7.1 Diagnóstic ambiental de la qualitat del sòl i sectors de riscos potencials definits ..... 30

7.2 Model conceptual i identificació de variables significatives ..... 33

*7.2.1 Propietats del medi físic ..... 33*

*7.2.2 Identificació de les fonts d'exposició ..... 34*

*7.2.3 Identificació dels usos del sòl i receptors potencials ..... 35*

*7.2.4 Identificació de rutes d'exposició ..... 36*

*7.2.5 Definició dels patrons d'exposició ..... 37*




*7.2.6 Definició de paràmetres constructius i relatius a l'entorn ..... 37*

*7.2.7 Quantificació de les concentracions d'exposició ..... 39*

*7.2.8 Quantificació i valoració de riscos per a la salut humana ..... 40*

*7.2.9 Valoració de resultats ..... 40*

7.3 Escenaris d'exposició desenvolupats ..... 41

7.4 Resultats ..... 55

8. ANÀLISI D'INCERTESA ..... 61

9. RESUM I CONCLUSIONS ..... 63

9.1 Treballs realitzats i resum de resultats ..... 63

9.2 Situació actual ..... 66

9.3 Pla Urbanístic aprovat ..... 67

9.4 Conclusions generals ..... 71

10. PLANTEJAMENT DE MESURES CORRECTORES I PREVENTIVES ..... 74

10.1 Descripció general ..... 74

10.2 Valoració d'alternatives ..... 76

10.3 Proposta d'alternativa en la gestió del risc ..... 82

*10.3.1 Identificació d'elements de risc potencial ..... 84*



10.3.2 Proposta de gestió dels riscs potencials plantejats .....84
10.3.3 Consideracions en la valoració de riscs i desenvolupament final de les concentracions residuals admissibles i paràmetres constructius .89



## ANNEXOS


Annex 1 Diagnòstic mediambiental

Annex 2 Concentracions de partida

Annex 3 Paràmetres de l'entrada de l'anàlisi de riscos i càlcul de concentracions admissibles

Annex 4 Valoració de riscos

Annex 5 Valoració de la dispersió atmosfèrica de gasos provinents de la massa de rebliment de l'abocador

Annex 6 Figures


## FIGURES


Figura 1 Sectors

Figura 2 Distribució de materials

Figura 3 Tipologia del recompliment i planejament inicial

Figura 4 Risc inhalació

Figura 5 Risc contacte dèrmic

Figura 6 Tipologia del recompliment i planejament proposat

Figura 7 Materials

Figura 8 Pla Urbanístic aprovat i tipologia de residu

## 1. INTRODUCCIÓ I ANTECEDENTS

La present Anàlisi de Riscos s'emmarca en el procés de caracterització de la qualitat del sòl desenvolupat per IDOM Enginyeria i Consultoria SA als terrenys corresponents a l'abocador de Can Planes a Cerdanyola del Vallès, en el que es preveu el desenvolupament d'un pla urbanístic (Centre Direccional de Cerdanyola del Vallès) que contempla l'ús residencial i comercial de l'emplaçament.

Els treballs corresponents a la valoració de riscos, s'emmarquen en el projecte de delimitació, caracterització i anàlisi d'alternatives per a l'abocador de Can Planes i corresponen a la Fase III dels treballs proposats.

La present anàlisi de riscos es basa en el diagnòstic ambiental desenvolupat per IDOM (Fase II dels treballs) basat en una valoració inicial d'antecedents (Fase I) així com els treballs de caracterització desenvolupats en l'emplaçament.

Aquesta anàlisi de riscos té com a objectiu fonamental la valoració de la compatibilitat dels usos futurs previstos en l'emplaçament i el seu entorn quant a la presència de riscos no admissibles per a la salut humana, a fi de determinar les actuacions necessàries i la seva viabilitat.

Els treballs desenvolupats s'emmarquen en allò que s'ha establit en matèria de sòls contaminats pel Reial Decret 9/2005 i l'Agència de Residus Catalana. Així mateix, la metodologia desenvolupada i les eines informàtiques emprades són de reconegut prestigi i validades per l'administració mediambiental estatal i catalana.

Si bé no hi ha normativa de referència aplicable per a la valoració de la qualitat de l'aigua subterrània, aquesta ha estat considerada en la present anàlisi de riscos d'acord amb la metodologia de referència esmentada.

## 2. ABAST I LIMITACIONS DE L'ANÀLISI DE RISCOS

D'acord a l'estudi de caracterització ambiental de l'abocador de Can Planes desenvolupat i al marc legal aplicable, l'Anàlisi de Riscos tindrà com a objectiu l'avaluació dels riscos potencials associats a la presència d'afecció al subsòl de l'emplaçament entenent com a tal el sòl i l'aigua subterrània, que pogués veure afectada al resultat de l'afecció en sòl.

La valoració de riscos s'ha desenvolupat d'acord amb els resultats i diagnòstic ambiental obtinguts en la Fase II de caracterització de l'afecció desenvolupada per IDOM Enginyeria i Consultoria (Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a Nivell d'Avantprojecte. Fase II. Treballs d'investigació i diagnòstic mediambiental, Memòria Tècnica).

L'anàlisi de riscos engloba als receptors que poguessin veures afectats per l'afecció present a l'abocador de Can Planes resultat dels abocaments que en el mateix s'han realitzat, de forma directa per l'exercici d'activitats sobre el propi abocador o de forma indirecta a través de migració o mobilització dels contaminants detectats en el material de rebliment de l'abocador.

Queden fora de l'abast del present estudi afeccions o efectes sobre la salut humana o ecosistemes associades a contaminants aliens als materials presents a l'abocador de Can Planes o associats a situacions o circumstàncies que poguessin sorgir amb el desenvolupament dels usos previstos (presència d'elements de risc com a sistemes de pressió, calderes, emmagatzemament i tractament de residus o altres riscos associats a instal·lacions industrials o d'un altre origen).

La valoració de riscos i conclusions obtingudes es basen en la informació disponible sobre la distribució dels usos genèrics del sòl previstos i la descripció bàsica de les estructures.

L'objectiu del present estudi és el de identificar usos que no es considerin inicialment compatibles amb l'estat del sòl d'acord al diagnòstic ambiental disponible, i sobre el qual hagin de desenvolupar-se mesures de gestió del risc.

El present estudi permetrà enfocar les mesures viables a valorar, si bé podrà requerir-se en fases posteriors dels treballs valoracions de risc addicionals que marquin de forma selectiva els objectius necessaris i confirmin l'eficàcia de les mesures a adoptar.

Queden excloses les situacions de risc per a la salut humana o medi ambient que poguessin derivar durant l'execució de les obres previstes.

## 3. MARC LEGAL APLICABLE

D'acord amb la metodologia establida a nivell estatal en la valoració de qualitat de sòls, es desenvolupa una primera valoració de les concentracions obtingudes enfront de valors genèrics de referència establerts per la legislació aplicable. En cas de superar-se les dites concentracions s'assumeix que podria donar-se una situació de risc potencial pel que haurà de desenvolupar-se un anàlisi quantitativa de riscos (ACR) específic per a l'emplaçament.

A continuació es detallen les referències genèriques aplicades en el present estudi

### *3.1.1 Sòls*

S'apliquen els Nivells Genèrics de referència (NGR) per a la valoració de qualitat de sòls establerts pel Reial Decret 9/2005.

Així mateix, i en aplicació del dit Reial Decret, s'apliquen els NGR específics per a metalls desenvolupats a nivell autonòmic per l'Agència de Residus de Catalunya.

En cas de detectar-se compostos en sòl la referència del qual no figuri en la normativa de referència es desenvoluparà l'ACR pertinent per a la valoració dels mateixos sempre que a judici tècnic, i basant-se en publicacions internacionals reconegudes, presentin rellevància per a la salut de les persones o el medi ambient

.

### *3.1.2 Aigua subterrània*

Donada l'absència de normativa específica per a la valoració de la qualitat d'aigua subterrània, s'empren els valors de referència publicats per la Normativa Holandesa[1], d'àmplia aplicació i reconeixement internacional.

### *3.1.3 Gasos (soil gas)*

Els gasos detectats en el rebliment del abocador s'avaluaran d'acord amb les seves propietats perilloses i/o toxicològiques, diferenciant;

- Gasos de caràcter perillós per les seves propietats físiques i toxicològiques agudes: entrant en aquest grup els gasos habituals d'abocador així com altres

[1] Circular on target values and intervention values for soil remediation. Version, february 4th, 2000

hidrocarburs alifàtics de cadena curta que presenten risc per explosió o exposició aguda. En general, atès que no es tracta d'ambients laborals s'ha considerat de forma exclusiva l'exposició per inhalació a agents tòxics

Les referències emprades són les següents per ordre de preferència

- INSHT[2], valors d'exposició puntual i límits d'explosivitat
- OMS[3], valors d'exposició aguda
- ATSDR[4], valors d'exposició aguda

- Gasos perillosos per les seves propietats toxicològiques cròniques: diferenciant efectes no cancerígens i cancerígens al llarg del període d'exposició total dels receptors

  A fi de disposar de valors de referència per a la valoració de les concentracions de gasos en sòl detectades d'acord amb les seves propietats toxicològiques, s'ha desenvolupat el mètode proposat per USEPA[5] basat en el transport de vapors en interiors en escenaris residencials (aquesta hipòtesi es considera suficientment conservadora per a la valoració de tots els casos previstos en l'emplaçament d'acord als usos previstos).

[2] *Instituto Nacional de Seguridad e Higiene en el Trabajo. Fichas Internacionales de Seguridad Química (FISQ)*

[3] *Organización Mundial de la Salud. Air Quality Guidelines for Europe, Second Edition, 2000. WHO Regional Publications, European Series, No. 91*

[4] *Agency for Toxic Substances and Disease Registry MINIMAL RISK LEVELS (MRLs), November 2007*

[5] *USEPA OWSER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), November 2002.*

## 4. METODOLOGIA

La present Anàlisi de Riscos es desenvolupa d'acord amb allò que s'ha establit en la normativa aplicable respecte a l'avaluació de qualitat de sòls on s'indiquen les directrius per al desplegament d'anàlisi quantitativa de riscos com a eina de decisió.

L'estudi d'anàlisi de riscos s'estructura en dues fases;

- Fase I o genèrica, en aquesta fase les concentracions obtingudes en sòl es comparen amb nivells de qualitat prèviament establerts:
    - Nivells Genèrics de referència (NGR) per a diferents usos del sòl establerts pel Reial Decret 9/2005, per a sòl
    - Nivells Genèrics de Referència (NGR) per a metalls pesats establerts per l'ARC per a diferents usos del sòl,
    - Valors d'Intervenció publicats per la normativa holandesa[6] per a aigua subterrània
- Els gasos detectats en el rebliment del abocador s'avaluaran d'acord amb les seves propietats perilloses i/o toxicològiques, diferenciant;
    - Criteris de seguretat per exposició aguda[7] a gasos d'abocador
    - Criteris de seguretat per explosivitat
    - Criteris de referència per exposició crònica a gasos d'abocador

Els nivells de referència aplicats suposen una aproximació inicial a situacions potencials de risc per al receptor considerat, el seu càlcul es basa en escenaris altament conservadors o pitjor cas, de manera que s'assumeix que en situacions en què no se superen els dits nivells genèrics es poden descartar situacions de risc no admissible per als usos del sòl o receptors considerats.

- Fase II detallada específica per a l'emplaçament

En cas de detectar-se compostos en concentracions superiors als nivells de referència aplicables, s'entén que hi ha un risc potencial pel que haurà de desenvolupar-se un anàlisi quantitativa de riscos específic per a l'emplaçament.

Els nivells o índexs de riscs obtingut indicaran la necessitat de prendre mesures correctores o de gestió del risc;

[6] Circular on target values and intervention values for soil remediation. Version, february 4th, 2000

[7] Institut Nacional de Seguretat i Higiene en el Treball. Fitxes Internacionals de Seguretat Química (FISQ), Organització Mundial de la Salut. Air Quality Guidelines for Europe, Second Edition, 2000. WHO Regional Publications, European Series, No. 91, Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs), November 2007

Situacions de risc admissible, no es requereixen mesurades correctores si bé es poden desenvolupar mesures preventives o plans de control mediambiental que garanteixin que no se superen els nivells de risc admissible.

Situacions de risc no admissible, es requereixen mesures d'actuació encaminades a gestionar el risc assegurant nivells admissibles per a la salut humana.

Tots els continguts i algoritmes de càlcul emprats es basen en metodologies i normes reconegudes internacionalment

- Guia de Tècnica d'Aplicació del Reial Decret 9/2005, Direcció General de Qualitat i Avaluació Ambiental, Ministeri de Medi Ambient
- RBCA (Risk Based Corrective Action for Chemical Releases), desenvolupada per ASTM (American Society for Testing Materials): ASTM PS-104 -98 Estàndard Provisional Guide for Risk Based Corrective Action, ASTM E 2081 – 00 Estàndard Guide for Risk-Based Corrective Action, E 1739 – 95 (Reapproved 2002) Estàndard Guide for Risk-Based Corrective Action Applied drec Petroleum Rellegeixi's Sites
- USEPA Risk Assessment Guidance for Superfund (RAGS), USEPA Soil Screening Guidance
- Concawe, Conservation of Clean Air and Water in Europe
- European Chenmicals Bureau

Software emprat en el desenvolupament dels càlculs

- BPRisc 4.05, desenvolupament per a BP Oil per Lynn R. Spence
- RBCA Tool Kit for Chemical Releases v 1.3b desenvolupat per Groundwater Services, Inc., Houston, Texas

## 4.1 Desenvolupament de l'Anàlisi Quantitatiu de Riscos (AQR)

El desenvolupament de l'anàlisi quantitativa de riscos específic de l'emplaçament presenta les següents etapes

### *4.1.1 Definició del model conceptual de l'emplaçament i escenaris d'exposició*

El model conceptual de l'emplaçament es basa en l'informació obtinguda durant la investigació, i identifica els paràmetres clau en la comprensió del comportament dels contaminants en el mig i el marc d'exposició als mateixos. Es basa en el coneixement de les fonts d'afecció, els compostos d'interès i les seves propietats, així com les característiques hidrogeològiques del mig que permetin avaluar l'extensió i evolució futura de l'afecció. El model conceptual es completa amb la identificació de fonts d'exposició, receptors potencials i vies d'exposició possibles.

- Font d'exposició;

  Es tracta del medi afectat per l'alliberament de contaminants al medi ambient i des d'on es produeix el transport cap a poblacions o receptors ecològics (en aquest cas les fonts principals seran el sòl i/o aigua subterrània afectats)

  Normalment el sòl afectat (considerat font principal), pot afectar altres medis com l'aigua subterrània que a la vegada es comportaran com a fonts d'exposició.

  Per caracteritzar adequadament la font d'exposició és necessari conèixer adequadament els mecanismes de mobilització dels contaminants en el medi així com les seves propietats i mecanismes de degradació química o biològica del contaminant en el medi.

- Receptor;

  Població susceptible d'entrar en contacte amb els contaminants presents en el medi ambient.

  Els receptors quedaran descrits fonamentalment per:

  - Localització respecte a la font d'exposició
  - Presència d'elements o població sensible (població de major sensibilitat a l'exposició a contaminants com a nens, ancians o malalts o que a causa del seu patró d'activitat presenten una taxa d'exposició elevada)
  - Activitat exercida en el punt d'exposició considerat, generalment relacionada amb els usos del sòl (residencial, comercial/industrial, recreatiu)

- Ruta d'exposició;

  Via d'exposició, es defineix com la ruta o mecanisme possible de transport de contaminants des de la font fins a entrar en contacte amb el receptor (punt d'exposició) per a finalment accedir a l'organisme mitjançant alguna de les tres vies d'exposició (accés a l'organisme) possibles: ingestió (oral), inhalació o absorció dèrmica

L'escenari d'exposició s'estableix en un límit o àmbit físic les característiques del qual han quedat definides adequadament i en el que s'identifiquen els elements descrits: una font d'afecció, una població potencialment exposada i una ruta d'exposició. En cas de no relacionar-se els tres elements fonamentals, es considera que no hi ha un escenari de risc viable.

Un vegada establides les fonts d'exposició, vies i receptors, es defineixen els escenaris d'exposició a avaluar en l'emplaçament.

En la present anàlisi de riscos desenvolupat en l'àmbit de Can Planes i el seu entorn, donada l'extensió i varietat d'usos i elements constructius actuals i previstos, s'ha desenvolupat un escenari d'exposició específic per a sectors delimitats, en el que s'han considerat aspectes particulars com;

- Fonts d'afecció, quantificació i distribució de l'afecció
- Usos i activitats actuals i previstos i rutes d'exposició potencial associades d'acord amb les estructures i activitats previstes

### *4.1.2 Avaluació de l'exposició*

Per a la caracterització de l'exposició, s'avaluen les exposicions que pateixen els receptors a través de les rutes determinades, la qual cosa, consisteix en:

- Caracteritzar el patró d'exposició dels receptors potencials mitjançant la determinació de les característiques i hàbits de comportament;

  Definició del patró d'exposició per als receptors identificats d'acord amb la seva activitat i hàbits. S'identifiquen els denominats factors d'exposició relatius a l'individu que permeten definir la taxa de contacte amb el contaminant basant-se en patrons d'activitat humana (durada total de l'exposició, temps en interiors, jornada laboral, etc) i paràmetres fisiològics (taxa inhalatoria, pes corporal, etc).

  Els patrons d'exposició desenvolupats responen al $P_{90}$ de la població, o el que és el mateix, el denominat receptor RME (raonablement més exposat).

- Determinació de la concentracionó d'exposició;

  Per a aquelles rutes d'exposició directes amb la font d'exposició (sòl o aigua subterrània), la concentració d'exposició serà la mesura en l'emplaçament.

  Per a aquelles rutes d'exposició indirectes (el contacte font-receptor no es dóna de forma directa), és necessari del desenvolupament de models de transport font-receptor adaptats a les condicions específiques de l'emplaçament. Per a això, s'han de definir les variables relatives al medi físic i a l'entorn del receptor que condicionen la taxa de contacte amb el contaminant: fonamentalment característiques constructives implicades en el transport de contaminants des de la font al receptor (configuració d'edificis, característiques de materials, etc)

  Models de transport habitualment empleats són;

  Models de transport de contaminants en aigua subterrània o superficial, empleat en els casos en què el receptor es troba a certa distància de la font (per exemple en el cas de presència de pous d'abastament fora dels límits de l'emplaçament objecte d'estudi).

  Models de transport de gasos provinents de sòl i aigua subterrània, és et tipus de model avalua la taxa de transferència de compostos volàtils des de matriu sòlida (sòl) o líquida (aigua subterrània) a fase gasosa i la seva posterior difusió a través de la columna d'aire cap a l'atmosfera.

  Es distingeixen fonamentalment els models de transport de gasos i intrusió en edificis i models d'exposició en exteriors (es tracta d'una adaptació del model d'intrusió en edificis denominada model caixa), els resultats d'aquest model es poden completar amb models de dispersió atmosfèrica per a l'avaluació de l'exposició a certa distància de la font.

  En el desenvolupament de la present anàlisi de riscos s'han emprat els següents models de transport;

  - Models de transport de vapors des de sòl i aigua subterrània (Johnson & Ettinger USEPA, 1991), adaptats mitjançant el "model caixa" per a la valoració d'inhalació en exteriors.
  - Model de dispersió atmosfèrica (valoració de l'impacte per transport de gasos d'abocador en l'entorn. S'ha emprat un Model Gaussiano, es tracta d'un model senzill basat en la fórmula de distribució de gauss, en el que es contemplen dades meteorològiques comunes per a tot l'àrea d'estudi i considera els efectes de la topografia, edificis, etc.
  - La valoració corresponent a la dispersió de contaminació en fase dissolta a través de l'aigua subterrània ha estat prèviament

desenvolupada mitjançant models de transport en la fase de diagnòstic ambiental.

- Cuantificació de l'exposició mitjançant el càlcul de la dosi subministrada

Relació entre la concentració de contaminant en el punt d'exposició i la taxa de contacte relativa al receptor d'acord amb el seu patró d'exposició.

S'expressa en termes de quantitat de la contaminant subministrat en contacte amb el cos per unitat de massa corporal i temps (mg/kg*dia)

El càlcul de la dosi respon a la següent fórmula general;

$$Dosis = C * \frac{CR * EFD}{PC} * \frac{1}{AT}$$

On;

C, concentració en el punt d'exposició

CR, ràti de contacte contaminant-receptor en termes de massa per esdeveniment o unitat de temps

EFD, durada (temps) i freqüència de l'exposició (esdeveniments per unitat de temps)

PC, pes corporal

AT, període de temps sobre el qual s'amitjana l'exposició (equivalent a la durada de l'exposició en l'avaluació d'efectes no cancerígens i a l'esperança de vida en efectes cancerígens)

### *4.1.3 Avaluació de la toxicitat dels compostos involucrats*

L'avaluació de la toxicitat consisteix en la valoració de la perillositat intrínseca dels compostos sobre el receptor expressada en termes d'índexs de toxicitat (expressades en termes de dosi de referència)

L'estudi de la toxicitat d'un compost avalua per separat i amb criteris diferents els riscos per exposició crònica associats als efectes tòxics o no cancerígens dels efectes cancerígens.

Les fonts consultades en la recopilació d'informació toxicològica són, d'acord amb la legislació aplicable i en ordre de preferència, les següents;

- Organització Mundial de la Salut (OMS)
- US Environmental Protection Agency Integrated Risk Information System (IRIS)

- Altres: HEAST (US Environmental protection Agency Health Effects Assessment Summary Tables), NCEA (US Environmental Protection Agency National Center for Environmental Assessment), European Chemical Bureau, RIVM (Dutch national Institute for Public Health and Environment), UK DEFRA (United Kingdom Department for Environment, Food and Rural Affaire and The Environment Agency).

D'acord amb la jerarquia establerta, la classificació de referència per a la valoració de la carcinogeneitat dels compostos serà la desenvolupada per l'IARC[8].

En el cas concret del Tricloroetileno (TCE), donades les evidències de cancinogeneitat per a humans i que OMS no ha considerat un valor de referència apropiat, s'ha pres com a referència el seleccionat per la UK Environmental Agency i The Department for Environment, Food and Rural Affairs (DEFRA) en el seu programa Contaminated Land Exposure Assessment (CLEA). El valor proposat es basa en els estudis i conclusions emprats així mateix per OMS.

En el cas del Tetracloroetilè (PCE) hi ha certes incerteses sobre la quantificació d'efectes cancerígens que fan que els principals organismes no s'hagin declinat cap a un valor determinat. D'acord al plantejament de les fonts de referència, no s'ha valorat el PCE com a cancerigen.

Els valors de referència emprats per a la família dels trimetilbenzens resulten una mica estrictes ja que es tracta de valors provisionals sobre els quals s'apliquen alts factors de seguretat donades les incerteses.

Les referències toxicològiques emprades es presenten en l'Annex 3

### *4.1.4 Caracterització del risc*

La caracterització del risc es basa a comparar els nivells d'exposició (prèviament quantificats en forma de dosi), amb nivells d'exposició de referència acceptats (índexs de toxicitat), obtenint així els índexs de risc.

El llindar o índex de risc acceptable, representa un equilibri entre el risc d'un efecte advers i el cost d'eliminar tots els contaminants del medi ambient. Una vegada establerts els valors de reg acceptables, si l'exposició avaluada es determina com inacceptable, serà necessària una actuació sobre el risc existent.

[8] IARC Monographs on the Evaluation of Carcinogenic Risk of Humans. Agents Reviewed by the IARC Monograph. March 2008

S'avaluen per separat i amb criteris diferents els riscos associats als efectes tòxics o no cancerígens dels efectes cancerígens.

Per caracteritzar efectes no-cancerígens, les comparacions es fan entre les dosis d'exposició volgudes per a cadascuna de les substàncies i les seves dosis de referència i al quocient d'aquestes dues quantitats (exposició /dosi de referència), que se li coneix com a Índex de Risc no-cancerigen. En aquest cas la valoració es realitza sobre un llindar tòxic (expressat en forma de dosi o concentració ambiental) sobre el qual s'assumeix que el receptor desenvoluparà efectes adversos.

Els efectes cancerígens no són avaluables sobre un llindar (s'assumeix que a qualsevol dosi és possible desenvolupar un càncer, no existeix per tant una dosi llindar protectora per a la majoria de la població, a excepció de l'exposició zero o nul·la), sinó que s'avalua la probabilitat que un individu desenvolupi càncer al llarg de la seva vida.

La probabilitat per a un individu de desenvolupar un càncer associat a un determinat compost s'avalua partint de la relació entre dosi d'exposició volgudes i la informació sobre la probabilitat específica de desenvolupar càncer (risc de càncer per unitat de dosi o factor de pendent). Al producte del valor de l'exposició (dosi volguda) pel factor de pendent se l'anomena Índex de Risc Cancerigen.

L'Índex de Risc cancerigen s'interpreta com la probabilitat que un individu exposat desenvolupi un càncer, que es pot interpretar a nivell de població com a casos de càncer entre cada x individus.

D'acord amb la legislació aplicable, els índexs de referència aplicats són; 1 per a efectes no cancerígens i $10^{-5}$ per a efectes cancerígens (un cas de càncer entre 100.000 habitants).

### *4.1.5 Riscos associats a exposicions agudes i explosivitat*

A fi d'evitar possibles incerteses quant a la presència i mobilització de contaminants en l'entorn de l'abocador de Can Planes i donada la perillositat per exposició aguda d'algun dels gasos detectats, la valoració de risc per intoxicació aguda o explosivitat es desenvolupa per comparació directa de la concentració dl'exposició esperada enfront dels nivells de seguretat establerts.

En aquest cas no es realitza una estimació de la dosi absorbida per l'organisme amitjanat a un període de temps, de manera que no es diferenciaran patrons d'exposició o pautes de comportament.

Així mateix, davant la possibilitat d'acumulació de gasos en espais confinats, no s'aplicaran factors de dilució font-receptor.

En el cas de risc per explosivitat (fonamentalment associada a la presència de metà), no es realitza una valoració d'efectes sobre l'organisme valorant-se les concentracions detectades enfront de nivells inferiors d'explosivitat (LEL).

### *4.1.6 Establiment de concentracions admissibles*

Un vegada establerts les fonts i escenaris d'exposició així com les variables relatives a patrons d'exposició, referències toxicològiques i nivells de risc acceptable, és possible obtenir les concentracions de partida que assegurarien nivells de risc acceptables per a l'escenari establert.

En el cas de donar-se saturació en sòl o aigua subterrània, el valor objectiu (o màxima concentració d'exposició viable) per al cas de la inhalació de vapors, és el límit de saturació del sòl o bé la solubilitat del compost en qüestió (la taxa d'emissió de vapor queda limitada a les condicions de saturació per la Llei d'Henry i Raoult). Ha d'assenyalar-se que, en coherència amb les metodologies de referència aplicades, el plantejament de l'anàlisi de riscos parteix de la base que no hi ha condicions de saturació (fase lliure) al medi. Així mateix, atès que la presència de saturació suposa una font d'afecció per si mateixa, no és possible establir unes condicions estables de garantia respecte al risc.

En molts casos, fins i tot en condicions de saturació, no s'aconseguirien nivells de risc no acceptable per inhalació (al no donar-se les dosis suficients sobre el receptor). En aquest cas la concentració admissible calculada s'equipara al límit de saturació teòric, és a dir, sota la hipòtesi de partida no s'aconseguirien situacions de risc no admissible.

Per tant, davant la presència de condicions de saturació, la valoració del risc queda condicionada a les condicions teòriques de partida, no podent-se descartar en qualsevol cas un risc potencial (en tant que no es retiri la possible fase lliure del medi).

### *4.1.7 Mesures de gestió del risc*

La gestió del risc analitza, després de l'avaluació de riscos, les mesures de control, reducció o eliminació del risc en el context dels recursos tècnics, entorn social i econòmic.

Les mesures a adoptar tenen diversos enfocaments;

- Mesures correctores, el seu objectiu és el de reduir el risc a nivells acceptables mitjançant;
    - Limitació de les vies d'exposició mitjançant barreres actives o solucions

estructurals
  - Controlar la font de contaminació reduint la presència de contaminants a concentracions residuals admissibles mitjançant el desenvolupament de tècniques de recuperació i remediació
- Protecció dels receptors
- Gestió dels usos del sòl, l'objectiu és valorar escenaris d'exposició que no impliquin situacions de risc no acceptable i valorar les possibilitats d'actuar sobre els usos del sòl i localització d'activitats i receptors, Aquest tipus de mesures resulta molt adequat en la planificació de canvis d'usos del sòl i desenvolupament urbanístic

## 5. LIMITACIONS DE L'ANÀLISI DE RISCOS

- Respecte a la metodologia desenvolupada
  - La present anàlisi de risc té com a objectiu la valoració dels efectes sobre la salut humana associats a la presència d'afecció al subsòl, quedant exclosos de l'abast del mateix els efectes produïts per altres fonts de risc
  - L'anàlisi de riscos es desenvolupa sobre les característiques reals de l'emplaçament. No obstant això, el desenvolupament de l'anàlisi de risc es basa en un model conceptual que implica una simplificació de la realitat i en el desenvolupament de valoracions matemàtiques del transport de contaminants i uns patrons d'exposició definits per als receptors i l'efecte que sobre ells pogués tenir tal exposició. A fi de cobrir les incerteses generades es realça una aproximació altament conservadora a fi de no subestimar riscos.
  - Les conclusions obtingudes estan per tant limitades a les condicions inicials considerades i als escenaris de risc establerts, de manera que qualsevol variació sobre les hipòtesis de partida podria modificar els resultats obtinguts.
  - La valoració de riscos es basa en índexs de referència toxicològica publicats per organismes internacionals plenament contrastats i admesos per la legislació aplicable en matèria de sòls contaminats. No obstant això, qualsevol modificació sobre les dades publicades hauria de ser considerada
- Respecte a les condicions de l'emplaçament objecte de valoració
  - No s'estima la presència de riscos potencials per als usuaris de pous d'abastament actuals (fora de l'àmbit de desenvolupament urbanístic) en l'entorn de l'abocador al no considerar-se la presència de concentracions significatives en els mateixos resultat de la dispersió d'afecció a través de l'aigua subterrània del terreny natural.
  - S'assumeix que els usos futurs de l'emplaçament no impliquen l'ús o abastament d'aigua subterrània (es descarta la presència d'usos ornamentals o abastament de l'aigua subterrània).
  - La valoració de la dispersió dels gasos generats a l'abocador de Can Planes (situació actual) presenta un grau de dilució suficient de manera que, baix situacions meteorològiques habituals (major freqüència) i sota les més desfavorables (situacions d'estabilitat atmosfèrica) registrades, no es superarien les concentracions admissibles per a l'exposició de la població de Cerdanyola del Vallès en prevenció d'efectes tòxics sobre la salut humana. Es desconeixen per tant les implicacions que una intervenció futura sobre els materials de l'abocador (especialment durant la fase d'execució de les obres) poguessin tenir sobre la població, per la qual cosa la pertinent valoració haurà de ser desenvolupada un vegada de concretin les tasques a executar.

## 6. AVALUACIÓ DE RISCOS SOTA LA SITUACIÓ ACTUAL A L'ENTORN DE L'ABOCADOR DE CAN PLANAS

A la valoració de la situació actual s'assumeix la següent circumstància;

- Desenvolupament dels usos actuals a la superfície del vas d'abocador i el seu entorn
- La no execució de mesures correctores sobre la massa de rebliment de l'abocador, ni limitació de les vies de dispersió de contaminants actuals (dispersió atmosfèrica i mobilització a través del terreny natural en aigua subterrània)

La valoració de riscos es basa en la identificació de punts o àrees on es coneix o cal esperar la presència de contaminants relacionats amb el vas de l'abocador. Això és;

- El propi vas de l'abocador
- Àrees en què poguessin aconseguir-se concentracions representatives de contaminants. En aquest cas es defineix;
  - la conca que comprèn l'abocador com a límit de la dispersió a través de l'aigua subterrània
  - àrea d'influència de gasos de l'abocador per dispersió atmosfèrica

Dins l'àrea identificada, els receptors potencials considerats són:

- Residents que, de forma esporàdica i no habitual, desenvolupen algun tipus d'activitat a la superfície de l'abocador (jocs, esport, passeig, etc)
- Treballadors del Parc Tecnològic
- Habitants del nucli urbà de Cerdanyola del Vallès per exposició als gasos provinents de l'àrea de l'abocador en el seu estat actual
- Usuaris dels pous existents de l'entorn del vas de l'abocador

A continuació es desenvolupa cada un dels escenaris definits sota la situació actual

### 6.1 Usos sobre el rebliment d'abocador

Sota la situació actual no existeix un ús definit a l'àmbit del vas de l'abocador, fet pel qual no és possible definir un escenari de riscos determinat, al no quedar definit un possible receptor i activitat habitual representatius de la població.

Únicament es podria considerar residents que, de forma esporàdica i no habitual, desenvolupen algun tipus d'activitat a la superfície de l'abocador (jocs, esport, passeig, etc), aquest receptors estaran exposats a l'afecció per les següents vies;

- Exposició als gasos de l'abocador en superfície (provinents del material de rebliment, aigua subterrània i altres gasos d'abocador), podent veure-se

afectats per intoxicació inhalatòria aguda i crònica, així com a situacions d'explosivitat
- Contacte directe amb el material afectat en superfície (el contacte directe implica l'absorció dèrmica i la ingestió accidental com a rutes d'exposició al contaminant)

Donat que aquests receptors no presenten un patró d'activitat definit que permeti avaluar amb exactitud els riscos crònics per exposicions prolongades, s'ha avaluat el risc sota les següents aproximacions;

- Valoració de les concentracions de contaminant registrades en el material de rebliment enfront dels nivells genèrics de referència aplicables per a l'avaluació d'exposicions cròniques
- Valoració d'exposicions de curta durada o agudes que poguessin generar un efecte advers sobre la salut humana
- Situacions d'explosivitat

En aquest cas es conclou que;

- De definir-se algun tipus d'activitat habitual, existiria un risc potencial associat a la presència de contaminants en material de rebliment, aigua subterrània i gasos d'abocador, en haver-se superat en tots els casos els nivells de referència aplicables per a certs compostos. Es tracta d'un risc potencial al no donar-se en l'actualitat usos habituals definits, que permetin avaluar la taxa d'exposició dels receptors al contaminant
- Es superen els nivells de referència per exposició aguda per a residents per inhalació de vapors (gasos d'abocador i altres compostos orgànics) en el rebliment de l'abocador (vegeu l'apartat 5.1.5, en el que s'especifica que, sota un escenari conservador i davant la possibilitat d'espais confinats o mecanismes de transport que atenuïn la dilució dels gasos, no es considera un factor d'atenuació font-receptor), que poguessin afectar un visitant esporàdic
- Es donen situacions d'explosivitat (àrees on els nivells de metà registrats superen el LEL), que poguessin afectar un visitant esporàdic
- Així mateix, no es pot descartar un possible episodi advers per ingestió puntual de material afectat, sempre que el material es trobi accessible i considerant que la concentració i dosi ingerida aconsegueixen nivells no admissibles.
- En tot cas, la probabilitat que es doni un episodi advers per exposicions puntuals és molt baixa, donada la sèrie de circumstàncies que haurien de donar-se, ja que
  - Els límits no acceptables detectats (concentracions en la massa de rebliment), tenen caràcter puntual i no s'aconsegueixen al llarg de tota la massa de rebliment
  - En cas de contacte directe amb el material afectat haurà de donar-se a una zona on no existeixi material de segellat o net en superfície.
  - La probabilitat de la presència d'un receptor sota aquestes circumstàncies es considera baixa al no haver-hi un ús habitual sobre la massa de rebliment

## 6.2 Àrea Parc Tecnològic i nucli urbà de Cerdanyola del Vallès

Els receptors industrials / comercials estaran exposats a l'afecció per les següents vies;

- Exposició en superfície a gasos provinents de:
  - superfície de l'abocador per dispersió atmosfèrica
  - ploma d'aigua subterrània afectada per compostos volàtils al terreny natural (difusió del gas a través del terreny natural)

És necessari diferenciar que es localitza un sector del Parc Tecnològic al costat de la massa de rebliment a la zona sud-est del vas de l'abocador, els receptors de la qual presentaran inicialment un major grau de sensibilitat a l'exposició de contaminants donada la proximitat a la font.

### *6.2.1 Exposició a gasos provinents de la massa de rebliment per dispersió atmosfèrica*

Els resultats de la modelització atmosfèrica desenvolupada (veure Annex 5), indiquen que, sota circumstàncies atmosfèriques normals, el grau de dilució esperat en els receptors considerats n'hi ha prou per descartar situacions no admissibles per exposició a gasos provinents de l'abocador.

Així mateix, el grau d'ocurrència de les situacions d'exposició valorades és de 0,35% del temps per al Parc Tecnològic i 0,59% per al nucli urbà de Cerdanyola del Vallès.

Per circumstàncies atmosfèriques normals s'entén a aquelles estadísticament registrades en una sèrie àmplia d'anys i la ocurrencia de la qual és possible valorar d'acord amb la seva probabilitat d'ocurrencia en el temps.

Les conclusions principals són les següents;

- Parc Tecnològic
  - En tots els casos, la dilució aconseguida al receptor (respecte a les concentracions registrades en la massa del rebliment de l'abocador) és de l'ordre de $10^{-7}$ a $10^{-8}$
  - El vent circula cap al receptor en un total del 2.41 % del temps, en el que només durant un 0.15% s'aconsegueixen les situacions d'estabilitat atmosfèrica més desfavorables
  - L'evolució de les concentracions al llarg de la zona ocupada per les instal·lacions del Parc Tecnològic asseguren condicions acceptables per als treballadors

- Nucli urbà de Cerdanyola del Vallès:
  - En tots els casos, la dilució aconseguida en el receptor (respecte a les concentracions registrades en la massa del rebliment de l'abocador) és de l'ordre de $10^{-8}$ a $10^{-9}$
  - El vent bufa cap al receptor en un total del 7,12 % del temps, en el que només durant un 0,23% s'aconsegueixen les situacions d'estabilitat atmosfèrica més desfavorables
  - L'evolució de les concentracions al llarg del nucli urbà asseguren condicions acceptables per als residents

Observi's que en cap cas les concentracions detectades al vas de l'abocador han superat en tres ordres de magnitud els nivells de referència per a exposició aguda i crònica (d'acord amb els nivells de referència establerts a l'apartat 4.1.5), de manera que els ordres de dilució esperats al receptor es consideren altament protectors.

Només en situacions no habituals d'alta estabilitat en què el grau de dilució fóra prou baix (s'estima aquest valor límit en un ordre de $10^{-3}$), no es descartarien possibles situacions puntuals adverses, que poguessin provocar, donada la curta durada de l'episodi, afeccions per exposició aguda, descartant-se per improbables els efectes negatius per exposicions cròniques.

La valoració de resultats obtinguts és presenta a l'Annex 5.

### *6.2.2 Exposició a gasos provinents de l'aigua subterrània en terreny natural*

Respecte a l'aigua subterrània, les concentracions detectades al terreny natural no aconsegueixen en cap cas nivells no admissibles per inhalació de vapors per als receptors considerats.

En el cas dels treballadors del Parc Tecnològic, localitzats al límit del vas de l'abocador, es pren com a referència l'avaluació desenvolupada per als treballadors de l'àrea de l'abocador a la valoració corresponent al Pla Urbanístic aprovat (veure capítol 7, sectors comercials 3 i 5, i resultats a l'Annex 4), en el què les concentracions de partida corresponen a l'afecció detectada en aigua subterrània sobre el terreny natural.

Per inhalació de vapors de l'aigua subterrània, les conclusions obtingudes indiquen que la situació de risc és admissible per als treballadors localitzats a les immediacions del vas de l'abocador i, per tant, a la resta de les instal·lacions (al trobar-se més allunyats del vas de l'abocador i on les concentracions estimades es consideren menyspreables).

Tanmateix, es considera una situació de risc admissible per a la població de Cerdanyola del Vallès a l'haver-se determinat, mitjançant modelització hidrogeològica, que les concentracions d'exposició en aquest cas són menyspreables.

A la figura 1 es mostra el límit d'afecció actual sobre el terreny natural, a partir de la qual els nivells d'afecció es troben per sota de potabilitat (valor altament conservador per als escenaris de risc plantejats)

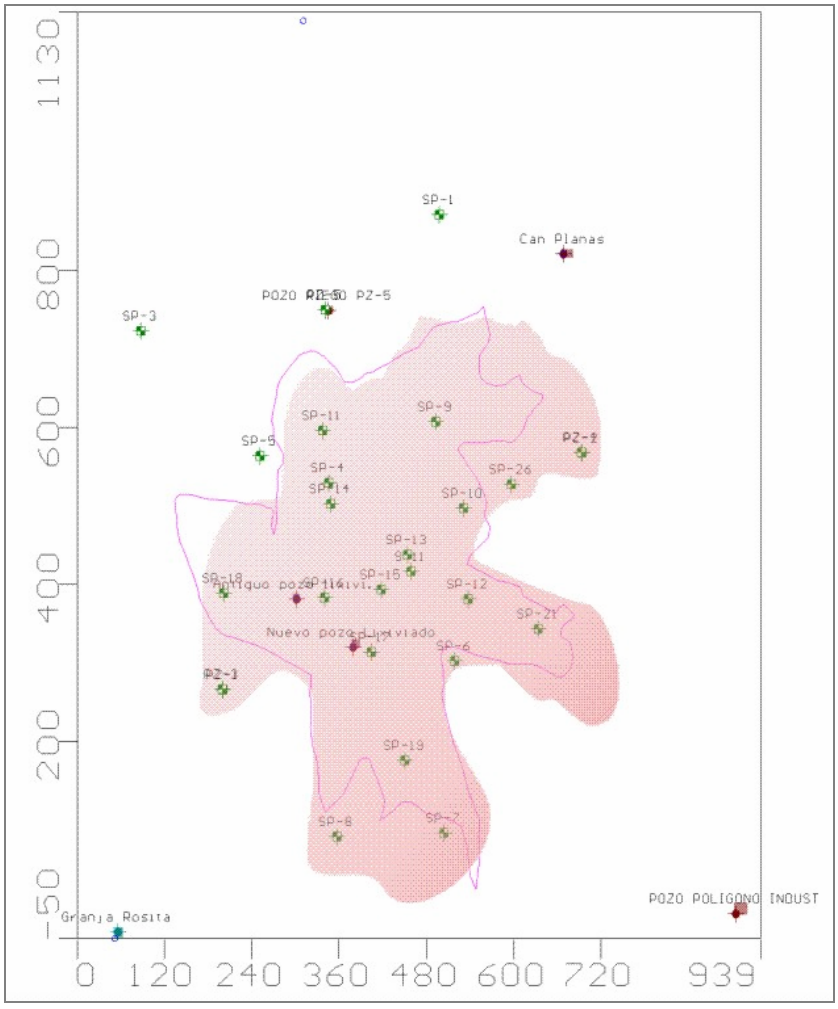



Figura 1. Àrea d'afecció amb concentracions superiors a potabilitat sobre el terreny natural

Com pot observar-se, els receptors actuals valorats es troben fora de l'àrea d'afecció actual sobre l'aigua subterrània en terreny natural.

Només en cas d'increments en les concentracions en aigua subterrània al terreny natural, podria suposar una potencial situació no admissible. Si bé amb el diagnòstic actual no és previsible un increment en les concentracions, no és descartable la

ocurrencia de circumstàncies anormals (especialment relacionades amb el funcionament hidrogeològic del vas de l'abocador i el seu entorn), que poguessin provocar situacions no admissibles.

### 6.3 Usuaris dels pous d'extracció existents a l'entorn de l'abocador

L'ús considerat es limita al reg, no contemplant en l'actualitat l'abastament per a consum humà habitual a la zona.

En aquest cas, les rutes d'exposició valorades durant el reg són l'absorció dèrmica, ingestió accidental d'aigua i la inhalació de vapors (provocats només en el cas de reg per aspersió).

Les concentracions detectades en els punts d'abastament actuals en ús (veure Annex 2), així com els resultats obtinguts mitjançant modelització hidrogeològica, suposen sota la situació actual, nivells de risc acceptable per als usuaris.

En tots els casos, els nivells d'afecció esperats es troben per sota dels nivells admissibles obtinguts per a aigua de reg (veure Annex 3), no superant en cap cas els nivells de potabilitat aplicables.

Cal tenir en compte que els pous actualment en ús presenten unes concentracions d'afecció estimades en, al menys, cinc ordres de magnitud inferiors als límits de potabilitat.

En cas de donar-se nous usos a l'entorn de l'abocador, especialment usos sensibles relacionats amb l'abastament d'aigua subterrània, no es descarten possibles situacions no admissibles.

Així mateix, variacions en el règim actual d'extracció d'aigua subterrània, podria provocar canvis en el règim de fluxos d'aigua subterrània i increments en els concentracions, no descarant-se en aquest cas que poguessin aconseguir-se nivells no admissibles.

Les alternatives d'actuació en aquest cas se centrarien en;

- Limitació de l'ús de l'aigua subterrània
- Adopció de plans de seguiment i control de la qualitat de l'aigua subterrània, activant els plans d'actuació necessaris en cas de superar-se les concentracions admissibles

## 6.4 Resultats

Sota la situació actual, i considerant el diagnòstic ambiental obtingut al vas de l'abocador de Ca Planes i el seu entorn, es considera que la situació de risc és admissible per als usos definits.

- Àrea del vas de l'abocador

  Actualment no es desenvolupen en l'actualitat usos o activitats definits pel que no s'assumeix una situació de risc per a la població per exposició directa als contaminants presents en el mateix. No obstant això, en cas de desenvolupar-se algun tipus d'ús sobre la massa de l'abocador, no es descarta la ocurrencia de situacions no admissibles en haver-se superat els nivells de referència aplicables (una apropiada valoració de riscos hauria de ser desenvolupada un vegada definida l'activitat a desenvolupar i el perfil i patró d'exposició de possibles usuaris).

  Actualment, es considera que la probabilitat d'ocurrencia d'efectes adversos puntuals sobre usuaris aïllats és molt baixa. En qualsevol cas en aquest cas es considera un efecte advers individual i no sobre la població general.

  Les mesures a prendre tenen un caràcter preventiu i anirien enfocades a;

  - Limitar usos futurs en l'àrea de l'abocador així com l'accés puntual actual
  - Desenvolupament d'una avaluació de riscos específica en el cas de desenvolupar-se nous usos en aquesta zona

- Usos actuals en l'entorn del vas de l'abocador

  La situació de riscos per als usuaris actuals de l'entorn de l'abocador (Parc Tecnològic, nucli urbà de Cerdanyola del Vallès i usuaris dels pous actuals per a reg) es considera admissible, ja que el grau de dispersió actual dels contaminants mitjançant dispersió atmosfèrica i a través de l'aigua subterrània al terreny natural, implica la presència de concentracions admissibles sobre els receptors.

  En cas de donar-se nous usos a l'entorn de l'abocador, especialment usos sensibles relacionats amb l'abastament d'aigua subterrània, no es descarten possibles situacions no admissibles.

  Així mateix, no es es descarta la ocurrència de situacions anormals que impliquin un increment de les concentracions d'exposició que poguessin aconseguir situacions no admissibles (especialment a l'entorn immediat de la massa de rebliment).

  Les mesures a prendre tenen un caràcter preventiu i anirien enfocades a;

- Desenvolupament d'una avaluació de riscos específica en el cas de desenvolupar-se nous usos en aquesta zona
- Plantejament de plans de seguiment i control de la qualitat de l'aire sobre els receptors actuals i de l'aigua subterrània a fi de detectar possibles increments en les mateixes que poguessin requerir el desenvolupament de plans d'actuació preventius
- Donada la proximitat a la massa de rebliment del vas de l'abocador al sector del Parc Tecnològic situat al costat del vas de l'abocador, es recomana el desenvolupament d'un estudi específic de la dispersió de gasos de l'abocador i qualitat de l'aire sobre els treballadors, així com plantejar el desenvolupament de mesures de barrera com a pantalles verdes

La limitació fonamental a la present valoració resideix que les valoracions de risc es basen en les concentracions i situació mesures durant els treballs d'investigació. Per tant, no és possible avaluar si en un passat es van superar les concentracions admissibles per a la població exposada i si el dany sobre la població ja s'hagués produït; cal recordar que, especialment en el cas d'efectes cancerígens, hi ha un desfasament temporal entre l'exposició a l'agent cancerigen i el desenvolupament del càncer.

Aquesta valoració de riscos és només vàlida davant la distribució d'usos del sòl actuals, requerint-se una nova valoració en cas de desenvolupar-se nous usos, especialment a la zona de risc potencial descrita.

Les situacions de risc potencial admissible es basen en la no actuació sobre el vas de l'abocador que limiti els nivells de dispersió actuals de l'afecció fora dels límits del mateix. El desenvolupament de mesures encaminades a controlar la font d'afecció redueix les incerteses quant a potencials situacions de risc no admissible.

# 7. DESENVOLUPAMENT DE L'ANÀLISI DE RISCOS EN L'ÀMBIT DE L'ABOCADOR DE CAN PLANAS (PLA URBANÍSTIC APROVAT)

## 7.1 Diagnóstic ambiental de la qualitat del sòl i sectors de riscos potencials definits

L'anàlisi de riscos es desenvolupa sobre els sectors de risc potencial definits en la Fase II de diagnòstic mediambiental en funció als següents criteris:

- Diagnòstic ambiental: distribució de l'afecció en sòl, aigua subterrània i gasos i valoració de les concentracions detectades enfront dels nivells de referència aplicables
- Distribució de la tipologia de farciments detectada a l'abocador
- Usos previstos en l'àrea de l'abocador, característiques i distribució (diferenciant entre usos equivalents quant a sensibilitat i configuració prevista en el projecte constructiu)
- Dispersió de l'afecció fora dels límits de l'abocador i usos actuals i previstos als voltants del mateix
- Presència d'escenaris de risc potencial en els casos en què es donen;
    - Receptor potencial
    - Font d'exposició potencial
    - Via d'exposició potencial

En l'Annex 1 és presenta un resum del diagnòstic mediambiental obtingut per a cadascun dels sectors considerats.

En la següent taula és descriuen els sectors identificats (veure Annexe 6, Figura 1 i 8);

Taula 1 Descripció dels sectors de risc potencial (Pla Urbanístic aprovat)

| Sector | Ús previst | Tipologia de reompliment associada | Descripció |
|---|---|---|---|
| 1 | Residencial<br>Parcs interiors<br>Equipament | Sòl natural<br>Reompliment terres | Sector situat en l'extrem nord de l'abocador en gran part fora del límit del vas d'abocador.<br>Potencialment afectat per nivells aqüífers corresponents al terreny natural (es descarta la presència de nivells aqüífers associats a la conca NE en aquest extrem).<br>L'ús previst es considera sensible al donar-se la presència d'habitatges i altres infraestructures residencials com parcs [A] |
| 2 | Residencial | Materials inerts<br>Reompliment terres<br>Terreny natural | Sector localitzat en l'extrem nord del vas de l'abocador i afectat principalment per rebliments de vas d'abocador i nivells aqüífers del mateix corresponents a la conca NE<br>L'ús previst es considera sensible al donar-se la presència d'habitatges i altres infraestructures residencials com parcs %[A] |
| 3 | Equipament | Reompliment superficial (argiles i graves)<br>Terreny natural | Sector situat en l'extrem nordest de l'abocador i en la seva totalitat fora del límit del vas d'abocador. Potencialment afectat per nivells aqüífers corresponents al terreny natural (en aquest cas afectats per afecció en la conca NE). |
| 4 | Residencial | Reompliment terres<br>Reompliment inerts<br>Reompliment inerts/no inerts | Sector situat en la seva totalitat en l'àrea del vas de l'abocador sobre rebliments de terres i materials inerts/no inerts.<br>Potencialment afectat per nivells aqüífers corresponents als rebliments.<br>L'ús previst es considera sensible al donar-se la presència d'habitatges i altres infraestructures residencials com parcs %[A] |
| 5 | Comercial<br>Serveis tècnics | Reompliment inerts<br>Reompliment inert/no inert | Sector localitzat all extrem est i situat a la seva totalitat sobre l'àrea del vas de l'abocador.<br>Potencialment afectat per nivells aqüífers corresponents als reompliments. |
| 6 | Residencial | Terreny natural | Sector situat en l'extrem oest de l'abocador en gran part fora del límit del vas d'abocador.<br>Potencialment afectat per nivells aqüífers corresponents al terreny natural.<br>L'ús previst es considera sensible en donar-se la presència d'habitatges i altres infraestructures residencials com a parcs [A] |

| Sector | Ús previst | Tipologia de reompliment associada | Descripció |
|---|---|---|---|
| 7 | Equipament<br>Parcs interiors<br>Sist. tècnics generals | Reompliment inerts/no inerts<br>Sals d'alumini | Sector situat en l'àrea central de l'abocador, comprenent en la seva meitat nord reompliments inerts/no inerts, donant-se en la seva meitat sud la presència de sals d'alumini.<br>Potencialment afectat per nivells aqüífers corresponents als reompliments de la cubeta sud.<br>L'ús previst es considera sensible en donar-se la presència de parcs [A] |
| 8 | Parcs interiors<br>Parque Ciencia<br>Serveis tècnics | Reompliment terres<br>Reompliment inerts<br>Reompliment inerts/no inerts<br>Reompliment sals alumini<br>Terreny natural | Sector situat en l'extrem sud-oest de l'abocador localitzat en gran part fora del límit del vas (àrea dedicada al Parc de la Ciència) i en menor mesura localitzat en reompliments de vas de l'abocador (serveis tècnics i jardins interiors).<br>L'ús principal d'aquest sector s'ha associat al Parc de la Ciència.<br>Potencialment afectat per nivells aqüífers corresponents al terreny natural i en menor mesura per nivells aqüífers corresponents als reompliments de la cubeta sud.<br>L'ús previst es considera sensible en donar-se la presència de parcs [A] |
| 9 | Equipament<br>Parcs interiors | Reompliment inerts<br>Reompliment inerts/no inerts<br>Terreny natural | Sector situat a l'extrem sud de l'abocador localitzat en gran part dins el límit del vas (abordant parcialment zones d'equipaments i parcs interiors) i en menor mesura localitzat en terreny natural.<br>Potencialment afectat per nivells aqüífers corresponents a nivells aqüífers de reompliments localitzats a la cubeta sud i en menor mesura a nivells aqüífers corresponents a terreny natural.<br>L'ús previst es considera sensible en donar-se la presència de parcs [A] |

*[A], la sensibilitat de l'ús associat a la presència de parcs interiors dependrà de la configuració d'ells mateixos avaluant-se cas per cas*

Seguint la metodologia plantejada, s'exposen els aspectes particulars considerats en el desenvolupament de l'anàlisi quantitativa de riscos per a la salut humana en l'àmbit de l'abocador de Can Planes.

## 7.2 Model conceptual i identificació de variables significatives

D'acord al diagnòstic ambiental desenvolupat en la Fase II, la present anàlisi de riscos es desenvolupa per a cadascun dels sectors de risc potencial establerts.

S'han definit les característiques i propietats de cadascun dels sectors de risc potencial identificats, considerant de forma particular les següents variables;

### *7.2.1 Propietats del medi físic*

S'han desenvolupat de forma particular les següients propietats;

- Identificació de la tipologia de material sobre la qual s'assenta el sector, diferenciant sòl natural i material de rebliment.

  Amb la finalitat de definir les propietats del terreny involucrades en els models de transport de gasos desenvolupats, s'ha realitzat una simplificació de la massa de rebliment d'abocador i terreny natural sobre la base de la següent tipologia de material;

  - Arenes llimoses
  - Llims
  - Graves i llims

  Les propietats particulars de cada tipologia de material definida es basen en dades de camp així com bibliografia consultada.

  La distribució de materials es presenta en la Figura 2 (veure Annex 6)

  Veure paràmetres físics emprats en Annex 3

- Espessor de rebliment representatiu en el sector:

  L'espessor de rebliment representatiu en cada sector ha estat avaluat mitjançant les dades disponibles respecte a la topografia del vas d'abocador, la topografia actual i les cotes d'excavació/rebliment previstes en cadascun d'ells.

- Presència d'aigua subterrània associada a nivells aqüífers en terreny natural o rebliment de vas d'abocador:

La profunditat al nivell freático de cadascun dels sectors ha estat avaluada mitjançant dades disponibles respecte a piezometría, topografia actual i les cotes d'excavació/rebliment previstes en cadascun d'ells.

Els paràmetres descrits tenen especial influència en el desenvolupament de models de transport de gasos a través de la zona no saturada del sòl.

En tots els casos, i d'acord al diagnòstic ambiental i les indicacions de la metodologia de referència en cas de distribució heterogènia de l'afecció, s'assumeix que l'afecció es troba al llarg de tota la superfície corresponent al sector tant en sòl com en aigua subterrània.

### *7.2.2 Identificació de les fonts d'exposició*

Les fonts d'exposició fonamentals a valorar són el sòl i l'aigua subterrània.

Ja que la presència de gasos en la zona no saturada del sòl està relacionada amb l'afecció present en sòl/rebliment i aigua subterrània, no es considera la presència de gasos com una font d'exposició addicional ja que suposaria una sobrestimación del risc. No obstant això, les concentracions detectades en sòl (mostres de gasos) seran valorades de forma complementària al transport de gasos procedents de sòl i aigua subterrània.

Sobre el diagnòstic ambiental obtingut s'han seleccionat per a cada sector els medis afectats susceptibles de generar un risc per als receptors amb les següents premisses;

- En general, aquells sectors inclosos total o parcialment sobre el vas d'abocador es veuran afectats per sòl i aigua subterrània (donada l'afecció generalitzada present en ambdós medis).
- En el cas de sectors localitzats fora dels límits de l'abocador, es valorarà l'aigua subterrània com a font d'exposició en les zones on s'ha constatat la connexió hidràulica entre el vas d'abocador i terreny natural i l'existència d'una ploma d'afecció fora dels límits de l'abocador associada a les zones de descàrrega.

### *7.2.3 Identificació dels usos del sòl i receptors potencials*

Els usos del sòl s'han definit de forma genèrica d'acord a l'establert en el pla de desenvolupament urbanístic (Pla Parcial Centre Direccional de Cerdanyola del Vallès).

D'acord a la distribució actual de l'afecció es consideren com a receptors potencials aquells que desenvolupin la seva activitat habitual en els terrenys ocupats per l'actual abocador de Can Planas en la seva totalitat i àrea d'influència (entenent com aquesta a les zones afectades per dispersió de contaminants a través d'aigua subterrània al terreny natural i població exposada a dispersió atmosfèrica de gasos).

De cara a la definició dels receptors a valorar, s'identifiquen dos tipus fonamentals:

- Residencial, comprèn a residents (nens i adults) considerant l'exposició en habitatges i zones d'oci comuns durant jocs, esbarjo i passejos així com activitat esportiva.

  En cas de donar-se la presència de centres d'educació de població infantil, la valoració dels alumnes haurà de realitzar-se sota un patró residencial (equiparable a l'estada en habitatges) donada la sensibilitat de la població infantil. No obstant això, en cas de centres educatius de segon grau universitaris amb presència de població adulta, el patró d'exposició serà assimilable a comercial.

  Donada la varietat d'usos, s'han considerat en exteriors les següents activitats;

  - Activitat residencial (zones privades ipúbliques)
  - Passejant
  - Esportista (no professional)
- Comercial, entenent per aquests als no residents que desenvolupen la seva jornada laboral en les zones comercials, equipaments, sistemes generals i Parc de la Ciència. S'ha considerat un perfil tipus de treballador que ocupa la seva jornada completa en els establiments previstos en el pla urbanístic, l'activitat del qual es desenvoluparia principalment en ambients interiors. Atès que no es disposa de dades específiques sobre la gestió i manteniment previstos en zones exteriors i comuns, s'ha assumit el desenvolupament d'una jornada laboral completa en exteriors per al receptor comercial definit.

  Com a cas especial s'ha considerat als receptors associats al centre sanitari previst en el sector 9, davant la possible presència de població sensible, els receptors han estat valorats com a residents.

Com a norma general, el patró d'exposició dels treballadors, sobre un mateix escenari, és menys estricte que per a residents al donar-se un nombre menor d'hores d'exposició diària així com menors períodes totals d'exposició.

Així mateix, en establiments en els quals la presència de residents es consideri puntual (centres d'oci, museus, etc), es considerarà com a representativa l'exposició del treballador.

Queden exclosos les situacions i receptors no habituals com és el cas dels treballadors durant les obres de construcció (considerada en el pertinent Pla de Seguretat i Salut d'acord a la legislació vigent en matèria de seguretat i higiene laboral).

### *7.2.4 Identificació de rutes d'exposició*

Donades les característiques del medi físic i la naturalesa dels contaminants detectats, es consideren les següents rutes d'exposició;

- Exposició per inhalació en superfície a gasos provinents del material de rebliiment afectat i de l'aigua subterrània.

  Donada la presència generalitzada d'afecció per compostos orgànics volàtils i la generació de gasos d'abocador, es considera la via inhalatoria com una de les principals rutes d'exposició a considerar. Segons l'ús i estructures presents en superfície aquesta inhalació tindrà lloc en interiors i exteriors

- Exposició al sòl afectat per contacte directe amb el mateix

  En aquest cas les vies d'entrada a l'organisme serien l'absorció dérmica a través de la pell i la ingestió accidental de sòl. En aquest cas els nens resulten especialment sensibles per exposició en zones de joc

  Aquesta ruta d'exposició queda limitada a les zones en les quals existeixi afecció superficial i no existeixi paviment o material de rebliment en superfície

- Atès que es preveu excavar material superficial en tots els sectors, s'ha valorat una possible presència de material superficial afectat en zones exteriors sense pavimentar

- No s'han considerat rutes d'exposició directa a l'aigua subterrània al no donar-se l'ús de la mateixa per a proveïment en les zones d'afecció tant en el vas de l'abocador com en l'entorn del mateix (d'acord al diagnòstic ambiental obtingut, l'afecció en aigua subterrània present en el terreny natural no afecta als pous de proveïment veïns)

Així mateix, es descarta la presència de llacunes artificials o fonts abastides de nivells aqüífers succints amb fins estètiques o ornamentals.

### *7.2.5 Definició dels patrons d'exposició*

Els paràmetres seleccionats (patrons d'activitat humana i paràmetres fisiològics) provenen de diverses fonts de reconegut prestigi;

- Institut d'Estadística de Catalunya
- Institut Nacional d'estadística
- European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC), (*Exposure Factors Sourcebook for European Populations (with focus on UK data), Technical Report No. 79, 2001)*
- US Environmental Protection Agency (*Exposure Factor Handbook, 1997*)

Les variables emprades es presenten en l'Annexe 3

### *7.2.6 Definició de paràmetres constructius i relatius a l'entorn*

En el desenvolupament de la present anàlisi de riscos s'han pres les següents consideracions generals;

- La superfície total afectada respon a la totalitat del sector considerat. Si bé es donen sectors inclosos de forma parcial sobre el vas de l'abocador, s'ha considerat en la seva totalitat davant la possible mobilització de gasos a través del terreny natural com s'ha pogut constatar especialment en el cas del sector 6
- S'ha considerat la superfície total dels edificis previstos presa sobre mesures en plànol i les dades presentades en el document Modificació puntual Pla Parcial Centre Direccional de Cerdanyola del Vallés
- Els paràmetres constructius relatius a altura de plantes d'habitatge, plantes comercials i garatges i soterranis responen a l'aportat pel Consorci i l'establert en el document *Modificació puntual Pla Parcial Centre Direccional de Cerdanyola del Vallés*
- Davant la variabilitat en les característiques finals dels edificis residencials i l'absència de dades definitives quant a nombre de soterranis i la presència de plantes comercials en els baixos dels edificis residencials, s'ha desenvolupat en tots els casos una aproximació inicial basada en un edifici d'habitatges amb un soterrani i habitatges residencials en la planta baixa del mateix

- En tots els casos s'ha considerat l'exposició de residents en la planta d'habitatges més propera a la font
- En cap cas s'ha considerat la presència d'habitatges o espais comercials en soterranis
- Aquesta aproximació es considera suficientment conservadora en el cas d'inhalació de vapors respecte a un major nombre de soterranis i la presència de locals comercials en la planta baixa
- En els casos en els quals es detecten situacions de risc potencial no admissible sobre el plantejament inicial s'ha desenvolupat un edifici amb un soterrani i locals comercials en la planta baixa
- Respecte a la taxa de renovació d'aire en l'interior d'edificis per als diferents usos estimats, s'han considerat les dades aportades pel Consorci i l'establert en el document *Modificació puntual Pla Parcial Centre Direccional de Cerdanyola del Vallés.*

  Atès que la taxa de renovació d'aire interior podria dependre de la configuració final dels diferents edificis i davant la dificultat en la valoració d'aquest paràmetre en l'interior d'habitatges residencials, com a primera aproximació s'han pres els valors de referència publicats en les metodologies de referència, considerant-se aquesta aproximació suficientment conservadora en relació a les dades aportades pel Consorci.
- Ja que existeixen incerteses sobre la configuració final d'edificis i la determinació de certes variables, s'ha optat per realitzar una aproximació conservadora amb la finalitat d'evitar subestimacions del risc
- En l'avaluació del transport de vapors en la zona no saturada i exposició en exteriors, s'ha considerat en tots els casos la presència d'un estrat superior de 30 cm de material no contaminat davant la previsió de presència de material de segellat, terra vegetal o altre tipus d'apilament, material de rebliment o paviment
- S'assumeix una possible presència de material superficial afectat en parcs o zones de joc. Aquest material podria aflorar resultat d'activitats d'excavació i/o apilament

Les variables emprades es presenten en l'Annexe 3.

### *7.2.7 Quantificació de les concentracions d'exposició*

En una primera aproximació i amb la finalitat de descartar la presència de riscos no admissibles (tal com estableixen les metodologies de referència aplicades en cas de distribució heterogènia de l'afecció), s'ha considerat de partida la màxima concentració detectada tant en sòl com en aigua subterrània assumint que s'arriba al llarg de la zona afectada considerada a cada sector avaluat.

Aquestes concentracions de partida s'empraran de forma directa en l'avaluació de contacte directe amb el sòl afectat.

Així mateix, les màximes detectades són emprades en el desenvolupament dels models de transport de vapors procedents de sòl i aigua subterrània per a valorar els diferents escenaris d'exposició en superfície (espais interiors i exteriors) la concentració d'exposició dels quals (concentració en aire) s'obté mitjançant l'ocupació dels models de transport esmentats en la metodologia de referència (veure apartat 5.1).

En el cas de la valoració de vapors mesurats en el sòl (*soil gas* zona no saturada), amb la finalitat d'obtenir la corresponent concentració de gas en aire en superfície (punt d'inhalació) i donada la incertesa sobre la font d'afecció associada i la seva relació en l'espai, s'ha desenvolupat un mètode basat en l'obtenció d'un factor d'atenuació específic per a interiors i exteriors d'acord a la metodologia exposada per la USEPA[9] i mitjançant el desenvolupament de models de transport específics (Johnson & Ettinger) emprant les característiques pròpies de l'emplaçament.

Sota un escenari conservador, s'assumeix que els gasos detectats es troben en aquest cas en l'estrat superficial de sòl (primer metre).

Els factors d'atenuació aplicats en l'abocador de Can Planas (assumint la litologia més permissiva davant la previsible presència d'estrats d'alta porositat i camins preferents de transport) són;

- factor d'atenuació per a interiors: 0,01
- factor d'atenuació per a exteriors: 0,001

[9] *USEPA OWSER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), November 2002.*

### *7.2.8 Quantificació i valoració de riscos per a la salut humana*

D'acord a la valoració de riscos potencials desenvolupada en la fase de diagnòstic ambiental i a la metodologia de treball plantejada es distingeixen;

#### 7.2.8.1 Valoració d'efectes crònics sobre la salut humana

La valoració d'efectes crònics sobre els receptors considerats es basa en l'estimació d'una concentració d'exposició promitja al llarg del període d'exposició total, per a això són d'especial importància el desenvolupament de models de transport de contaminants des de la font al receptor ja que representen el grau d'atenuació que sofreix el contaminant des de la font a l'instant d'exposició segons la tipologia del terreny i les característiques constructives d'edificis fonamentalment.

Els resultats obtinguts són valorats enfront de les fonts toxicològiques corresponents per a valoració d'efectes (cancerígens i no cancerígens) sobre la salut humana relatius al període total d'exposició a una font determinada.

Al tractar-se d'una valoració a llarg termini, no queden contemplades situacions no habituals que poguessin donar-se per facturació de materials, acumulacions de gasos etc., que inicialment suposarien una alteració puntual de la concentració d'exposició.

#### 7.2.8.2 Valoració d'efectes aguts sobre la salut humana

Els efectes aguts responen a exposicions de curta durada i suposen un valor sostre sobre el qual la salut humana podria veure's greument perjudicada. Per aquesta raó, s'assumeix que per a la seva valoració s'haurà de realitzar una comparança directa de les concentracions detectades en la font sobre el receptor sense considerar els factors d'atenuació anteriorment esmentats ja que aquesta situació podria produir-se davant casos no habituals (acumulació puntual de gasos, etc).

#### 7.2.8.3 Explosivitat

Igual que en el cas anterior, es realitzarà una valoració directa sobre els gasos detectats en sòl assumint que poguessin donar-se amb concentracions similars en superfície (associat fonamentalment a espais confinats, estructures subterrànies o espais de ventilació limitada).

### *7.2.9 Valoració de resultats*

Donada la gran varietat d'elements detectats i dades analítiques disponibles, l'estratègia de càlcul i valoració desenvolupada es basa en el càlcul inicial de les concentracions admissibles en sòl, soil gas i aigua subterrània per a la totalitat dels escenaris de risc plantejats.

La valoració de situacions de risc es realitza mitjançant la comparança de les concentracions detectades amb les admissibles, entenent que de superar-se aquestes, es donaria una situació de risc no admissible (les concentracions objectiu depenen de l'escenari de risc plantejat i no de la concentració inicial).

Aquesta aproximació permet major capacitat de valoració de les concentracions oposades en el medi sense necessitat de desenvolupar una valoració del risc per a cada concentració d'entrada.

En tots els casos es pren el valor admissible més restrictiu dels obtinguts en un mateix escenari

La valoració de riscos s'ha realitzat sobre la totalitat de les mostres analitzades i compostos detectats.

Les concentracions admissibles obtingudes es presenten en l'Annex 3, on es desglosen;

- Concentracions admissibles per inhalació de vapors procedents de sòl en interiors i exteriors per a cada un dels escenaris plantejats (considerant les condicions particulars de cada un dels sectors definits, usos i característiques constructives)
- Concentracions admissibles per inhalació de vapors procedents de aigua subterrània en interiors i exteriors per a cada un dels escenaris plantejats (considerant les condicions particulars de cada un dels sectors definits, usos i característiques constructives)
- Concentracions admissibles per inhalació de vapors del sól (soil gas en zona no saturada) en interiors i exteriors per a cada un dels escenaris plantejats. Les concentracions admissibles obtingudes responen a cada un del terra plantejat (residencial/comercial) i activitat en interior i exterior. Considerant la hipòtesi de partida sobre la mobilitat dels gasos al material de farcit i al mètode de càlcul plantejat (veure apartat 7.1.7), s'obté una concentració de referència a terra (soil gas) per a cada ús genèric aplicable a la totalitat dels sectors definits

Finalment, l'avaluació de riscs obtinguda (valoració de les concentracions detectades davant les concentracions admissibles) per a cada un dels escenaris plantejats es detallen a l'Annex 4.

### 7.3 Escenaris d'exposició desenvolupats

A continuació es resumeixen les principals característiques específiques de cada sector considerades en l'anàlisi de riscos.

Taula 2 Descripció dels escenaris de risc desenvolupats

| **Sector 1** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en gran part fora del límit del vas d'abocador afectat per rebliments de la conca NE en la zona on es preveu la construcció d'edificis residencials.<br>⇒ Espessor de rebliment associat: 1 m<br>⇒ Tipologia rebliment: Arena llimosa<br>Es considera com a afectada la totalitat de la superficie del sector<br>Associat a nivells aqüífers corresponents al terreny natural no afectats per transport de contaminants des del vas d'abocador (zona de recàrrega). | |
| Fonts d'exposició | Sòl: rebliments d'abocador | |
| Compuestos de interés | Hidrocarburs del petroli de cadena pesada | |
| Gasos d'abocador/explosivitat | Sense presència rellvant | |
| Usos i receptors potencials | Residencial (habitatges):<br>⇒ Resident (nens i adults)<br>Comercial (Equipament social)<br>⇒ Treballadors<br>Parcs i zones exteriors d'ús comú<br>⇒ Residents (nens i adults)<br>⇒ Treballadors | L'edifici comercial (equipament social) es considera fora de l'àrea d'influència de l'abocador. Només s'avaluarà en cas de donar-se riscos per als residents |
| Vies d'exposició | Inhalació de vapors del sòl en interiors i exteriors | |
| Característiques constructives | Residencial (edifici habitatges)<br>⇒ Resident (nen i adult): exposició en edificis amb habitatge en la planta baixa i un soterrani<br>Equipamient social<br>⇒ Comercial (treballador): exposició en edifici comercial d'una planta sense soterrani<br>Zones exteriors sense paviment | |

| **Sector 2** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en gran part fora del límit del vas d'abocador afectat per rebliments de la conca NE en la zona on es preveu la construcció d'edificis residencials.<br>⇒ Espessor de rebliment associat: 20 m<br>⇒ Tipologia rebliment: Arena llimosa<br>Es considera com a afectada la totalitat de la superficie del sector Associat a nivells aqüífers;<br>⇒ Corresponents al terreny natural no afectats per transport de contaminants des del vas d'abocador (zona de recàrrega).<br>⇒ Corresponents a rebliments de la conca NE | |
| Fonts d'exposició | Rebliments d'abocador<br>Nivell aqüífer conca NE | |
| Compuestos de interés | Sòl: COVs<br>Aigua subterrània: MP, BTEX, COVs | |
| Gasos d'abocador/explosivitat | Sense presència rellevant | |
| Usos i receptors potencials | Residencial (habitatges):<br>⇒ Resident (nens i adults)<br>Parcs i zones exteriors d'ús comú<br>⇒ Residents (nens i adults) | |
| Vies d'exposició | Inhalació de vapors de sòl i aigua subterrània en interiors i exteriors | |
| Característiques constructives | Residencial: expoció en edificis amb habitatge en la planta baixa i un soterrani<br>Zones exteriors sense paviment | |

| **Sector 3** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva totalitat fora del límit del vas d'abocador (arenes llimoses).<br>Associat a nivells aqüífers;<br>⇒ Corresponents al terreny natural afectat per transport de contaminants procedents de la cubeta NE (zona descàrrega)<br>⇒ Nivell freàtic associat: 24,6 m<br>Es considera com a afectada la totalitat de la superficie del sector | |
| Fonts d'exposició | Aigua subterrània a nivell aqüífer terreny natural | |
| Compuestos de interés | Aigua subterrània: MP, BTEX, TPH, COVs | |
| Gasos d'abocador/explosivitat | Sense presència rellevant | |
| Usos i receptors potencials | Comercial (equipament lúdic-cultural)<br>⇒ Treballadors<br>Parcs i zones exteriors d'ús comú<br>⇒ Residents (nens i adults)<br>⇒ Treballadors | |
| Vies d'exposició | Inhalació de vapors de l'aigua subterrània en interiors i exteriors | Es descarta l'exposició a metalls pesats al no donar-se usos directes de l'aigua subterrània afectada.<br>No es dona la presència de mercuri (únic metall volàtil) |
| Característiques constructives | Comercial: exposició en edifici comercial sense soterrani<br>⇒ Edifici A (menor superfície)<br>⇒ Edifici B (major superfície)<br>Zones exteriors sense paviment | |

| **Sector 4** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva totalitat sobre rebliments d'abocador<br>⇒ Espessor de rebliment associado: 23 m<br>⇒ Tipologia rebliment: arena llimosa<br>Associado a nivells aqüífers;<br>⇒ Conca NE i N d'abocador<br>⇒ Nivell freàtico associat: 7,3 m<br>Es considera com afectada la totalitat de la superficie del sector | Sota la situació actual es descarta una connexió hidràulica entre les cubetes NE i N degut a la presència d'un envà natural.<br>No obstant s'estima que després de l'execució de les obres es pogués donar una connexió entre ambdós cubetes |
| Fonts d'exposició | Sòl: nivell rebliments d'abocador<br>Aigua subterrània: nivell aqüífer conca NE i N | |
| Compuestos de interés | Sòl: MP, TPH, PAH, COV, PCB, ftlatos<br>Aigua subterrània: MP, BTEX, TPH, COVs | |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador | Es superen els nivells d'explosivitat (LEL) i exposició aguda per a gasos d'abocador i COV |
| Usos i receptors potencials | Residencial (habitatges):<br>⇒ Resident (nens i adults)<br>Comercial (Planta baixa edificis)<br>⇒ Treballadors<br>Parcs i zones exteriors d'ús comú<br>⇒ Residents (nens i adults)<br>⇒ Treballadors | |
| Vies d'exposició | Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors | Es descarten usos directes de l'aigua subterrània |
| Característiques constructives | Residencial: exposició en edificis amb habitatge en la planta baixa i un soterrani<br>Zones exteriors sense paviment | |

| **Sector 5** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva totalitat sobre rebliments d'abocador<br>⇒ Espessr de rebliment associat: 23 m<br>⇒ Tipologia rebliment: graves i llims, llims<br>Associat a nivells aqüífers;<br>⇒ Conca NE d'abocador<br>⇒ Corresponents al terreny natural afectat pel transport de contaminants procedents de la cubeta NE (zona descàrrega)<br>⇒ Nivell freàtic associat: 8,8 m<br>Es considera com afectada la totalitat de la superficie del sector | |
| Fonts d'exposició | Sòl: nivell rebliments d'abocador<br>Aigua subterrània: nivell aqüífer conca NE | Ja que la ploma d'afecció generada en el terreny natural presenta concentracions inferiors a les registrades en la zona de la cubeta NE corresponent al sector 5, es descarta com a font d'exposició principal, sent aplicables a tot el sector els resultats obtinguts en l'aqüífer |
| Compuestos de interés | Sòl: TPH, ftlats<br>Aigua subterrània: MP, BTEX, TPH, COVs | Es descarta l'exposició a metalls pesats al no donar-se usos directes de l'aigua subterrània afectada.<br>No es dóna la presència de mercuri (únic metall volàtil) |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador | Es superen els nivells d'explosivitat (LEL) i exposició aguda per a gasos d'abocador |
| Usos i receptors potencials | Comercial, Serveis tècnics<br>⇒ Treballadors<br>Parcs i zones exteriors d'ús comú<br>⇒ Residents (nens i adults)<br>⇒ Treballadors | |
| Vies d'exposició | Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors | Es descarten usos directes de l'aigua subterrània |
| Característiques constructives | Comercial: exposició en edifici amb planta baixa comercial i un soterrani | |

| **Sector 5** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| | Zones exteriors sense paviment | |

| **Sector 6** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en gran part fora del límit del vas d'abocador afectat per rebliments de les conques N i S en la zona on es preveu la construcció d'edificis residencials i equipaments (guarderia infantil).<br>⇒ Espessor de rebliment associado: 9 m<br>⇒ Tipologia rebliment: llims<br>Associat a nivells aqüífers<br>⇒ Corresponents al terreny natural (no afectats pel transport de contaminants des del vas d'abocador (zona de recàrrega)).<br>⇒ Nivell freàtic associat: 9 m<br>Es considera com afectada la totalitat de la superfície del sector | |
| Fonts d'exposició | Sòl: nivell rebliments d'abocador | L'afecció detectada en aigua subterrània (nivells rebliment abocador) és limitada no presentant compostos volàtils que suposin un risc potencial.<br>Es descarten usos o aprofitaments de l'aigua subterrània |
| Compuestos de interés | Sòl: TPH, COV | |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador en el límit amb cubeta S (àrea edifici residencial) | Es superen els nivells exposició aguda per a gasos d'abocador |
| Usos i receptors potencials | Residencial (habitatges)<br>⇒ Resident (nens i adults)<br>Residencial/Comercial (guarderia infantil)<br>⇒ Resident (nens i adults)<br>Parcs i zones exteriors d'ús comú<br>⇒ Resident (nens i adults)<br>⇒ Treballadors | Els receptors associats a la guarderia infantil es consideren residents donada la sensibilitat de la població infantil exposada |
| Vies d'exposició | Inhalació de vapors del sòl en interiors i exteriors | |

| **Sector 6** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Característiques constructives | Residencial: exposició en edificis amb habitatge en planta baixa i un soterrani<br>Zones exteriors sense paviment | |

| **Sector 7** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva totalitat sobre rebliments d'abocador<br>⇒ Espessor de rebliment associat: 37 m<br>⇒ Tipologia rebliment: llims<br>Associat a nivells aqüífers;<br>⇒ Conca S d'abocador<br>⇒ Nivell freàtic associat: 2,65 m<br>Es considera com afectada la totalitat de la superfície del sector | |
| Fonts d'exposició | Sòl: nivell rebliment d'abocador<br>Aigua subterrània: nivell aqüífer conca S | |
| Compuestos de interés | Sòl: MP, TPH, BTEX, PAH, VOC<br>Aigua subterrània: MP, BTEX, PAH, COV | |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador | Es superen els nivells d'explosivitat (LEL) i exposició aguda per a gasos d'abocador i COV |
| Usos i receptors potencials | Parcs interiors<br>⇒ Resident (nens i adults)<br>⇒ Treballadors<br>Equipament i sistemes tècnics generals (sense edificis d'activitat habitual)<br>⇒ Treballadors | |
| Vies d'exposició | Inhalació de vapors del sòl i aigua subterrània en exteriors | Es descarten usos directes de l'aigua subterrània |
| Característiques constructives | Zones exteriors sense paviment | |

| **Sector 8** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva totalitat sobre rebliments d'abocador<br>⇒ Espessor de rebliment associat: 24 m<br>⇒ Tipologia rebliment: llims<br>Associat a nivells aqüífers<br>⇒ Conca S d'abocador<br>⇒ Corresponents al terreny natural (no afectats per transport de contaminants des del vas d'abocador (zona de recàrrega)).<br>⇒ Nivell freàtic associat: 16,7 m<br>Es considera com afectada la totalitat de la superfície del sector | |
| Fonts d'exposició | Sòl: nivel rebliment d'abocador<br>Aigua subterrània: nivell aqüífer conca S | Només es considera la presència d'aigua subterrània associada a la cubeta S com a font d'exposició (la presència d'As en el nivell natural no s'estima de risc potencial al no donar-se usos directes de l'aigua subterrània en aquest sector) |
| Compuestos de interés | Sòl: TPH, PAH, COV, ftalats<br>Aigua subterrània: MP, BTEX, COV, cresols | |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador | Es superen els nivells d'exposició aguda per a gasos d'abocador i COV |
| Usos i receptors potencials | Parc de la Ciència<br>⇒ Treballadors<br>Serveis tècnics<br>⇒ Treballadors<br>Parcs i zones exteriors d'ús comú<br>⇒ Resident (nens i adults)<br>⇒ Treballadors | |
| Vies d'exposició | Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors | Es descarten usos directes de l'aigua subterrània |

| **Sector 8** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Característiques constructives | Comercial: exposició en edifici amb planta baixa comercial sense soterrani<br>Zones exteriors sense paviement | |

| **Sector 9** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Propietats del medi físic i afecció | Sector ubicat en la seva pràctica totalitat sobre rebliments d'abocador (terreny natural en els límits del sector)<br>⇒ Espessor de rebliment asociat: 34 m<br>⇒ Tipologia rebliment: arena llimosa<br>Associat a nivells aqüífers<br>⇒ Conca S d'abocador<br>Sòl: nivell rebliment d'abocador<br>Aigua subterrània:<br>⇒ Nivell aqüífer conca S<br>⇒ Corresponents al terreny natural (afectats pel transport de contaminants des del vas d'abocador (zona de descàrrega)).<br>⇒ Nivell freàtic associat: 15,7 m<br>Es considera com afectada la totalitat de la superfície del sector | Les concentracions en aigua subterrània en el terreny natural es consideren despreciables front a les registrades en la cubeta S (no obstant això es considera l'afecció registrada en la cubeta S al llarg de tot el sector) |
| Fonts d'exposició | Sòl: nivell rebliment d'abocador<br>Aigua subterrània: nivell aqüífer conca S | |
| Compuestos de interés | Sòl: TPH, PAH, PCB, COV<br>Aigua subterrània: MP, TPH, BTEX, COV | |
| Gasos d'abocador/explosivitat | Presència rellevant de gasos d'abocador | Es superen els nivells d'explosivitat i exposició aguda per a gasos d'abocador |
| Usos i receptors potencials | Equipament (centre cultural)<br>⇒ Treballadors<br>Equipament (centre sanitari)<br>⇒ Treballadors<br>⇒ Residents<br>Parcs i zones exteriors d'ús comú<br>⇒ Resident (nens i adults)<br>⇒ Treballadors | En el cas del centre sanitari es consideren receptors de caràcter residencial donada la sensibilitat de la població exposada. |

| **Sector 9** | | |
|---|---|---|
| **Característica** | **Descripció** | **Observacions** |
| Vies d'exposició | Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors | Es descarte usos directes de l'aigua subterrània |
| Característiques constructives | Equipament (centre cultural)<br>⇒ Exposició en edifici amb planta baixa comercial sense soterrani<br>Equipament (centre sanitari)<br>⇒ Exposició en edifici amb planta baixa comercial i un soterrani<br>Zones exteriors sense paviement | |

## 7.4 Resultats

En la següent taula es resumeixen els resultats obtinguts en l'anàlisi de riscos desenvolupat per a cadascun dels sectors definits.

La valoració detallada per al total de les mostres valorades es presenta en l'Annex 4

Els riscos inhalació i contacte dèrmices presenta en les Figures 3 i 4 Annex 6)

Taula 3 Resum de resultats obinguts (Pla urbanístic aprovat)

| Sector | Avaluació de riscos | Compostos involucrats | Observacions | Actuació requerida |
|---|---|---|---|---|
| 1 | Sòl: concentracions admissibles<br><br>Aigua subterrània: concentracions admissibles<br><br>Gasos d'abocador: Situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors) per mobilització en la massa del rebliment | -- | En els voltants d'aquest sector es detecte gasos en concentracions no admissibles. Si be no constitueixen un risc no admissible en el sector 1, s'haurà de considerar una possible mobilització de gasos. | Aplicació de mesures correctores<br><br>Assegurar la presència de paviment en zones exteriors.<br><br>Aplicació de mesures preventives<br><br>Limitar el potencial transport de gasos procedents del vas d'abocador que puguessin arribar a nivells de risc especialment en estructures subterrànies<br><br>Mantenir les activitats exteriors més sensibles (zones deportives, etc.) allunyades del límit de l'abocador en prevenció d'exposició a pics de concentració que puguessin donar-se |
| 2 | Sòl: concentracions admissibles<br><br>Aigua subterrània: concentracions admissibles<br><br>Gasos d'abocador: Situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors) per mobilització en la massa del rebliment | -- | La situació de riscos potencials podria ser desfavorable en cas de desenvolupar-se un nombre de soterranis major a l'estimat (1 planta), al produir-se una taxa de contacte major entre l'edifici i el material de rebliment o aigua subterrània així com alteracions en el fluxe de la mateixa per la presència d'estructures subterrànies.<br>En els voltants d'aquest sector es detecten gasos en concentracions no admissibles. Si bé no constituïxen un risc constatat en el sector 1, haurà de considerar-se una possible mobilització de gasos. | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Aplicació de mesures preventives<br>Limitar el potencial transport de gasos procedents del vas d'abocador que puguessin arribar a nivells de risc especialment en estructures subterrànies<br>Mantenir les activitats exteriors més sensibles (zones deportives, etc.) allunyades del límit de l'abocador en prevenció d'exposició a pics de concentració que puguessin donar-se |

| Sector | Avaluació de riscos | Compostos involucrats | Observacions | Actuació requerida |
|---|---|---|---|---|
| 3 | Aigua subterrània: concentracions admissibles<br>Gasos d'abocador: concentracions admissibles | Benzè | S'han detectat concentracions de TPH properes als límits de saturació en aigua subterrània, el que podria generar una situació de risc potencial no admissible per afecció al medi.<br>La situació de risc podria ser desfavorable en cas d'increments de concentració en la ploma d'afecció generada en terreny natural per sobre dels valors admissibles.<br>En relació a l'aigua subterrània, la presència d'un soterrani en l'edifici no suposaria un increment del risc per inhalació de vapors de l'aigua subterrània sempre que aquest no arribi a el nivell freàtic.<br>No obstant això s'incrementaria la taxa de contacte amb material afectat per gasos d'abocador. | Aplicació de mesures preventives<br>Actuacions dirigides a limitar l'afecció en aigua subterrània en prevenció d'increments d'afecció que puguessin donar lloc a situacions de risc<br>Actuacions dirigides a la limitació de la difusió de gasos del subsòl des dels nivells de rebliment, especialment en l'interior d'edificis i estructures subterrànies.<br>Mantenir les activitats exteriors més sensibles (zones deportives, etc.) allunyades del límit de l'abocador en prevenció d'exposició a pics de concentració que puquessin donar-se<br>Evitar la presència d'estructures subterrànies que puguessin arribar al nivell freàtic. |

| Sector | Avaluació de riscos | Compostos involucrats | Observacions | Actuació requerida |
|---|---|---|---|---|
| 4 | Sòl: Situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors).<br>Es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Aigua subterrània, Saturació per TPH amb risc potencial per inhalació<br><br>Gasos d'abocador, situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors).<br>Risc d'explosivitat i exposició aguda | Benzè<br>Toluè<br>Xilens<br>TPH volàtil<br>TCE<br>Metilbenzens<br><br><br><br>Benzè<br>TPH volàtil<br>1.1-DCA<br>cis 1.2-DCE<br>CV<br>Explosivitat<br>$SH_2$<br>$NH_3$ | Les valoracions en interiors han estat realitzades considerant una planta soterrani, es donen situacions de risc no admissible per als casos valorats;<br>⇒ Residencial planta baixa<br>⇒ Comercial (local comercial) planta baixa i residencial planta primera<br>Els nivells de risc incrementen en les zones associades graves i llims (aquesta tipologia presenta major capacitat de difusió de vapors des de la font) | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Limitar de la presència de gasos en superfície (interior d'edifici i zones exteriors).<br>Limitar la presència de sòtans que incrementaria la tassa de contacte entre el residu i l'estructura.<br>Limitar la presència d'estructures subterrànies susceptibles de confinar gasos.<br>Limitar la presència d'edificis residencials en la zona afectada |
| 5 | Sòl: Situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors).<br>Es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Aigua subterrània, Saturació per TPH amb risc potencial per inhalació<br><br>Gasos d'abocador, situació de risc no admissible per presència de gasos d'abocador en la zona no saturada.<br>Risc d'explosivitat i exposició aguda | Xilens<br>Trimetilbenzns<br>Benzè<br>Explosivitat<br>$NH_3$ | S'han detectat concentracions de TPH properes als límits de saturació en aigua subterrània, el que podria generar una situació de risc potencial no admissible per afecció al medi. | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Limitar de la presència de gasos en superfície (interior d'edifici i zones exteriors).<br>Limitar la presència de sòtans que incrementaria la tassa de contacte entre el residu i l'estructura.<br>Limitar la presència d'edificis en la zona afectada |

| Sector | Avaluació de riscos | Compostos involucrats | Observacions | Actuació requerida |
|---|---|---|---|---|
| 6 | Sòl: es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Aigua subterrània, no suposa una font d'exposició (terreny natural sense afecció per dispersió)<br>Gasos d'abocador, concentracions admissibles | -- | | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Aplicació de mesures preventives<br>Actuacions dirigides a la limitació de la difusió de gasos del subsòl des del rebliment d'abocador cap al terreny natural i intrusió a l'interior d'edificis i a estructures subterrànies (confinament).<br>Mantenir les activitats exteriors més sensibles (zones deportives, etc.) allunyades del límit de l'abocador en prevenció d'exposició a pics de concentració que puquessin donar-se |
| 7 | Sòl: Situació de risc no admissible per inhalació de vapors del sòl (interiors i exteriors).<br>Es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Aigua subterrània, Saturació per TPH amb risc potencial per inhalació<br><br>Gasos d'abocador, situació de risc no admissible per presència de gasos d'abocador en la zona no saturada.<br>Risc d'explosivitat i exposició aguda | Metilbenzens<br>1,2-DCA<br><br>Metilbenzens<br>cis1-2-DCE<br>$SH_2$<br>$NH_3$<br>Explosivitat | Les concentracions no admissibles en sòl s'han detectat en la zona de graves i llims (aquesta tipologia presenta major capacitat de difusió de vapors des de la font)<br><br>La situació de risc s'associa a la totalitat del rebliment en aquest sector (s'assumeix un alt grau de mobilització de gasos d'abocador) S'han detectat concentracions de TPH i Hg properes als límits de saturació en sòl i aigua subterrània, el que podria generar una situació de risc potencial no admissible per afecció al medi | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Limitar de la presència de gasos en superfície (interior d'edifici i zones exteriors). |

| Sector | Avaluació de riscos | Compostos involucrats | Observacions | Actuació requerida |
|---|---|---|---|---|
| 8 | Sòl: Situació de risc no admissible per inhalació de vapors del sòl (exteriors).<br>Es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Aigua subterrània, Saturació per TPH amb risc potencial per inhalació<br><br>Gasos d'abocador, situació de risc no admissible per presència de gasos d'abocador en la zona no saturada.<br>Risc per exposició aguda | Cis 1.2-DCE<br>NH3<br>Formaldèhid | S'han detectat concentracions de TPH i Hg properes als límits de saturació en sòl i aigua subterrània, el que podria generar una situació de risc potencial no admissible per afecció al medi<br>Es donen concentracions de gasos que suposen riscos potencials per exposició aguda (especialment en zones de possible confinament) | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br>Limitar de la presència de gasos en superfície (interior d'edifici i zones exteriors i espais confinats) |
| 9 | Sòl: Situació de risc no admissible per inhalació de vapors del sòl (interiors)<br>Es donarien riscos no admissibles en cas de contacte directo amb el sòl afectat (ausència de paviment)<br>Situació de risc no admissible per inhalació de vapors del sòl (exteriors).<br>Aigua subterrània, Saturació per TPH i Hg amb risc potencial per inhalació<br><br>Gasos d'abocador, situació de risc no admissible per presència de gasos d'abocador en la zona no saturada (interiors i exteriors)<br>Risc d'explosivitat i exposició aguda | TPH volàtil, TCE, Hg<br><br>Explosivitat<br>NH3 | Les concentracions detectades en sòl superen els nivells admissibles en el cas d'equipament sanitari<br>Els nivells de gasos d'abocador se superen de forma generalitzada<br>S'han detectat concentracions de TPH i Hg properes als límits de saturació en sòl i aigua subterrània, el que podria generar una situació de risc potencial no admissible per afecció al medi | Aplicació de mesures correctores<br>Assegurar la presència de paviment en zones exteriors.<br><br>Limitar la presència de gasos en superficie (interiors, exteriors i espais confinats i zones exteriors) |

## 8. ANÀLISI D'INCERTESA

Principals incerteses relatives al desenvolupament de l'anàlisi de riscos i anàlisis de sensibilitat;

Respecte a la font d'exposició

- Els límits de les fonts d'afecció i la seva distribució de compostos i concentracions resulten d'alta heterogeneïtat en el vas d'abocador, en la valoració de les concentracions d'exposició s'ha realitzat sempre una primera aproximació enfront de les màximes concentracions potencials i s'assumeix per defecte que l'afecció s'estén en la totalitat del sector estudiat
- Delimitació de zones de risc; s'ha valorat en tots els sectors on no s'han registrat situacions de risc no acceptable la possible mobilització de contaminants en fase vapor i aigua subterrània (seguint els fluxos establerts), prenent en alguns casos les concentracions detectades en sectors confrontants sense considerar dilució
- Distribució vertical de l'afecció, es mantindrà la interpretació més conservadora prenent la mostra més representativa al llarg de tota la columna en cas de no existir dades suficients
- Identificació dels nivells en profunditat que, de ser excavats, assegurarien una situació acceptable. En aquest cas s'han valorat les màximes cotes d'excavació previstes (sobre els perfils presentats en el projecte). No obstant això, la valoració inicial de riscos considera l'espessor actual (aquest escenari és més conservador a l'incrementar la massa de residu sota edificis o soterranis). Una vegada decidit el planejament urbanístic final, es desenvoluparà una valoració específica cas per cas
- Les incerteses generades quant a la generació (origen) i dispersió de gasos d'abocador dificulten la limitació i valoració dels mateixos. En la present anàlisi de riscos, tots els resultats obtinguts han estat encarats amb les mesures de gasos preses en camp amb la finalitat d'evitar subestimar el risc en la mesura del possible. No obstant això, aquesta incertesa implica la necessitat d'adoptar marges de seguretat en les mesures correctores així com mesures preventives en sectors inicialment no afectats.
- En moltes de les mostres analitzades es donen concentracions superiors als nivells de saturació o solubilitat teòrics calculats; donades les limitacions exposades sobre el tractament de les condicions de saturació en la valoració d'emissió i transport de vapors de sòl i aigua subterrània, atès que en els casos en què no se superaria el nivell de risc no admissible fins i tot aconseguint-se les condicions de saturació no

es poden establir concentracions residuals admissibles superiors a les concentracions de saturació,

Es considera en el present estudi que hi ha situacions de risc potencial associada a la presència de compostos en saturació, considerant-se com a situació de risc admissible aquella en què les mateixes es mantenen per sota de saturació.

Respecte a les característiques constructives

- Es considera que l'edifici i patró d'exposició desenvolupat en interiors suposa un escenari suficientment conservador. No obstant això, encara que l'increment del nombre de soterranis tendiria a disminuir les concentracions d'inhalació en interior, es generen incerteses quant a l'estratificació de l'afecció i presència de contaminants en els materials que envolten l'estructura pel que no es considera una solució viable en la seva valoració
- Els escenaris d'inhalació en exteriors han estat desenvolupats suposant una capa de 30 cm de sòl net en superfície. Inicialment l'increment de l'espessor de materials naturals de rebliment no implica importants descensos en la taxa de transport de vapors a superfície. Per tant es considera que les mesures correctores han d'incloure la presència de materials específics de baixa permeabilitat.
- Totes les aproximacions realitzades haurien de ser analitzades, i actualitzades en cas necessari, una vegada establertes les mesures correctores i pla urbanístic final

Respecte a la valoració de receptors, patrons d'exposició i quantificació del risc

- L'enfocament adoptat resulta altament conservador i representatiu per a la major part de la població.
- Les referències toxicològiques emprades es consideren altament contrastades i protectores per a la major part de la població. És particular el cas de PCE i TCE sobre els quals existeixen incerteses entre els principals organismes de referència, en aquests casos els factors de seguretat adoptats en la generació dels índexs emprats assegura que no es produeix una subestimació del risc.

Existeixen incerteses associades a la pròpia configuració del vas de l'abocador i a la varietat d'usos i estructures previstes, per tant es considera que prendre rangs de seguretat sobre actuacions generals aconseguiria reduir aquestes incerteses quant a la valoració de riscos

# 9. RESUM I CONCLUSIONS

## 9.1 Treballs realitzats i resum de resultats

L'anàlisi de riscos desenvolupat en l'àmbit de l'abocador de Can Planas es basa en el diagnòstic ambiental obtingut durant la fase d'investigació i té com a objectiu valorar la situació de riscs per als usos definits en l'actualitat en l'entorn del vas de l'abocador i la compatibilitat dels usos previstos en el pla urbanístic aprovat respecte a la qualitat del sòl i l'aigua subterrània.

L'objectiu principal en aquesta fase de la valoració de riscos és, per tant, diferenciar els usos que requereixin actuacions correctores i realitzar una primera aproximació a les mateixes.

D'acord amb la normativa aplicable en matèria de qualitat de sòls (Reial Decret 9/2005) s'ha realitzat una primera aproximació genèrica consistent en la comparació de les concentracions obtingudes enfront de nivells genèrics de referència.

Medis avaluats i nivells de referència aplicats;

- Sòls: Nivells Genèrics de Referència (NGR) per a la valoració de qualitat de sòls establerts pel Reial Decret 9/2005 i NGR específics per a metalls desenvolupats a nivell autonòmic per l'Agència de Residus de Catalunya.
- Aigua subterrània: valors de referència publicats per la Normativa Holandesa[10],
- Gasos (*soil gas*):
    - Gasos de caràcter perillós per les seves propietats físiques i toxicològiques agudes (referències publicades per a exposicions agudes per INSHT[11], OMS[12], ATSDR[13])
    - Gasos perillosos per les seves propietats toxicològiques crònniques: diferenciant efectes no cancerígens i cancerígens al llarg del període d'exposició total dels receptors (valors de referència derivats d'acord al

[10] Circular on target values and intervention values for soil remediation. Version, february 4th, 2000

[11] *Instituto Nacional de Seguridad e Higiene en el Trabajo. Fichas Internacionales de Seguridad Química (FISQ)*

[12] Organización Mundial de la Salud. Air Quality Guidelines for Europe, Second Edition, 2000. WHO Regional Publications, European Series, No. 91

[13] Agency for Toxic Substances and Disease Registry MINIMAL RISK LEVELS (MRLs), November 2007

mètode establert per USEPA[14] basat en les referències toxicològiques emprades a la present anàlisi de riscos)

En aquells casos en què se superen les concentracions de referència, s'assumeix la presència d'un risc potencial pel que és necessari el desenvolupament d'un anàlisi de riscos específic de l'emplaçament que permeti diferenciar les situacions de risc no admissible que requereixin mesures correctores per garantir la compatibilitat de la qualitat del sòl amb els usos previstos i poder quantificar i dissenyar aquestes de forma adequada.

Donada l'heterogeneïtat i amplitud de compostos detectada, s'ha realitzat la corresponent valoració de riscos per a la totalitat dels compostos detectats considerant totes les mostres analítiques disponibles.

Aspectes considerats en el desenvolupament de l'anàlisi de riscos per a la salut humana:

- **Àmbit de l'estudi**
  - L'anàlisi de risc desenvolupat contempla l'afecció present a l'abocador de Can Planas i àrees d'influència, considerant aquesta com les zones externes on s'ha detectat afecció provinent del vas de l'abocador mitjançant la mobilització i dispersió de contaminants, contemplant-se en aquest cas l'afecció localitzada en aigua subterrània en materials naturals fora del vas d'abocador i la dispersió atmosfèrica de gasos cap als nuclis de població pròxims
  - Situació actual. Contemplant la no implantació de mesures de control o correctores i els usos actuals desenvolupats sobre la massa de rebliment i l'entorn de l'abocador
  - Pla urbanístic aprovat. Donada l'amplitud de l'àmbit d'estudi, s'han diferenciat un total de nou sectors d'ús o activitat en relació al pla urbanístic previst a la zona d'estudi i la seva ubicació respecte a les fonts d'afecció detectades. La valoració de riscos s'ha desenvolupat per tant de forma particular per a cadascun d'ells

[14] *USEPA OWSER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), November 2002.*

- **Fonts d'exposició:**
  - Es considera el sòl/rebliment i l'aigua subterrània (associada a rebliments del vas d'abocador i terreny natural en els casos en què s'hi ha transport i dispersió de contaminants a través del terreny natural).
  - Els gasos detectats a l'abocador no es consideren com una font addicional d'exposició en estar relacionat amb l'afecció present en sòl i aigua subterrània, no obstant això han estat avaluats de forma complementària.

- **Rutes d'exposició:**

  De manera general es consideren les següents rutes d'exposició:
  - Contacte directe amb el sòl afectat en els casos en què el material afectat aflori en superfície i no es de la presència de paviment
  - Inhalació de vapors procedents del sòl i de l'aigua subterrània en espais interiors i exteriors
  - Es descarten les vies d'exposició relacionades amb un ús directe de l'aigua subterrània com a abastament o usos ornamentals (llacunes, fonts, etc) en l'àrea de l'abocador i el seu entorn immediat (inclòs en el pla urbanístic aprovat)
  - Sol es contemplen els pous d'abastament actualment en ús en l'entorn de l'abocador

- **Receptors potencials:**

  Considerant els usos actuals i previstos en l'àrea d'estudi, es consideren els següents receptors potencials:
  - Residents, nens i adults en el desenvolupament de la seva activitat habitual a l'interior dels habitatges i en exteriors (parcs, oci, etc)
  - Treballador comercial, aquell que no sent resident, desenvolupa la seva activitat laboral en l'àrea d'estudi
  - Es consideren casos de població sensible als relacionats amb guarderies infantils i centres sanitaris

- **Establiment del marc d'exposició i escenaris de risc:**
  - A cadascun dels escenaris definits, han estat ubicats de forma adequada les fonts d'exposició viables i els receptors potencials a considerar d'acord amb els usos i activitats actuals i previstos.
  - La definició del marc d'exposició quant a característiques del medi físic, propietats d'estructures constructives i concentracions representatives, han estat desenvolupat de forma particular per a cadascun dels sectors seleccionats prenent com a dades de partida els obtinguts en la fase

d'investigació i diagnòstic així com el planejament urbanístic i característiques constructives (pla urbanístic aprovat)

- **Valoració i quantificació de riscos per a la salut humana:**
  - Valoració de riscos riscs per exposició crònica per als usos actuals i previstos a l'emplaçament
  - Valoració de riscos associats a la presència de gasos d'abocador per explosivitat i exposició aguda

- L'anàlisi de riscos es planteja considerant les característiques reals de l'emplaçament. No obstant això, el desenvolupament de l'estudi es basa en un model conceptual que implica una simplificació de la realitat i en el desenvolupament de valoracions matemàtiques del transport de contaminants i uns patrons d'exposició definits per als receptors i l'efecte que sobre ells pogués tenir tal exposició. A fi de cobrir les incerteses generades es realça una aproximació altament conservadora a fi de no subestimar riscos.
- Les conclusions obtingudes estan per tant limitades a les condicions inicials considerades i als escenaris de risc establerts, de manera que qualsevol variació sobre les hipòtesis de partida podria modificar els resultats obtinguts.

## 9.2 Situació actual

- Massa de rebliment de l'abocador

  No es dónen usos actuals definits sobre la massa de rebliment, per tant, no s'estableix un escenari de riscos per a la població.

  No es descarta la ocurrència d'efectes aguts adversos sobre receptors individuals (no representatius de la població general) que, de forma aïllada i esporàdica, es trobin sobre la massa de rebliment. No obstant això, la probabilitat d'ocurrència de circumstàncies adverses és molt baixa.

- Parc Tecnològic i nucli urbà de Cerdanyola del Vallès

  Els receptors ubicats en el parc tecnològic i nucli urbà de Cerdanyola del Vallès, es troben sota una situació de risc admissible.

  El grau de dispersió actual de contaminants a l'entorn del vas de l'abocador no suposa sota condicions normals una situació no admissible per als receptors actuals.

- Usuaris pous risc entorn abocador

  La situació actual per als usuaris (industrials/comercials) dels pous localitzats en l'entorn de l'abocador és admissible.

  No obstant això, i davant la possibilitat de modificacions en el grau d'expossició actual, són d'aplicació mesures preventives enfocades al seguiment i control de les concentracions d'expossició (aire atmosfèric i aigua subterrània) sobre els usos i receptors actuals.

### 9.3 Pla Urbanístic aprovat

Els sectors i activitats localitzats sobre el vas de l'abocador presenten la següent distribució de riscos:

**Sector 1 - Residencial**

- Contacte directe amb material superficial afectat en zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc admissible (per a residents i usos comercials en edificis)
- Situacions d'explosivitat: no previsibles (el sector es troba fonamentalment sobre terreny natural, no havent-se detectat la presència de gasos d'abocador). No obstant això no es descarta una mobilització limitada de gasos en l'entorn dels rebliments.
- Actuació requerida:
  - Correctora en cas de presentar-se material afectat en superfície en zones d'ús sensible (aquelles que impliquin un contacte directe amb el material)
  - Preventiva
    - Limitació de la dispersió de gasos de la zona de rebliments del vas d'abocador i limitació de zones de possible confinament
    - Limitació de la presència d'usos sensibles en exteriors als voltants del vas de l'abocador (zones d'esbarjo, etc)
    - Limitació del contacte d'estructures subterrànies amb els rebliments d'abocador (conduccions, soterranis, etc)

**Sector 2 - Residencial**

- Contacte directe amb material superficial afectat en zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: les concentracions detectades en sòl i aigua subterrània es consideren admissibles. No obstant això, la presència de gasos detectats a la zona no saturada del sòl als voltants del sector, indica una potencial situació de risc per inhalació de vapors en superfície (per a residents i usos comercials en edificis)
- Situacions d'explosivitat: la presència de gasos detectats a la zona no saturada del sòl als voltants del sector, indica una potencial situació de risc per explosivitat.
- Actuació requerida:
    - Correctora: en cas de presentar-se material afectat en superfície en zones d'ús sensible (aquelles que impliquin un contacte directe amb el material)
    - Preventiva:
        - Limitació de la dispersió de gasos de la zona de rebliments del vas d'abocador i limitació de zones de possible confinament.
        - Limitar la presència d'usos del sòl per als que poguessin donar-se situacions de risc no admissible (usos o activitats de major sensibilitat o capacitat de generar espais confinats)

**Sector 3 - Equipament lúdic cultural**

- Contacte directe amb material superficial afectat en zones no pavimentades: no es considera aquesta ruta d'exposició en trobar-se el sector sobre terreny natural
- Inhalació de vapors aigua subterrània en interiors i exteriors: situació admissible (usos comercials en edificis i exteriors)
- Situacions d'explosivitat: no previsibles (el sector es troba fonamentalment sobre terreny natural, no havent-se detectat la presència de gasos d'abocador). No obstant això no es descarta una mobilització limitada de gasos en l'entorn dels rebliments
- Actuació requerida: preventiva
    - Limitació de la dispersió de gasos de la zona de rebliments del vas d'abocador i limitació de zones de possible confinament.
    - Actuacions dirigides a limitar l'afecció en aigua subterrània en prevenció

d'increments d'afecció que poguessin donar lloc a situacions de risc
- Limitar la presència d'usos del sòl per als que poguessin donar-se situacions de risc no admissible (usos o activitats de major sensibilitat o capacitat de generar espais confinats)

**Sector 4 - Residencial**

- Contacte directe amb material superficial afectat a zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc no admissible per inhalació de vapors del sòl i gasos d'abocador en interior (habitatges i baixos comercials) i exteriors.
- Situacions d'explosivitat: sí
- Actuació requerida: correctora
  - Limitar la presència de material afectat en superfície
  - Limitació de la presència de gasos en superfície (interior d'edificis, exteriors) i acumulació en estructures subterrànies.
  - Limitar la presència d'usos del sòl per als que poguessin donar-se situacions de risc no admissible (usos o activitats de major sensibilitat o capacitat de generar espais confinats)

**Sector 5 - Comercial i serveis tècnics**

- Contacte directe amb material superficial afectat a zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc no admissible per inhalació de vapors del sòl i gasos d'abocador en interior (edificis comercials) i exteriors.
- Situacions d'explosivitat: sí
- Actuació requerida: correctora
  - Limitar la presència de material afectat en superfície
  - Limitació de la presència de gasos en superfície (interior d'edificis, exteriors) i acumulació en estructures subterrànies.
  - Limitar la presència d'usos del sòl per als que poguessin donar-se situacions de risc no admissible (usos o activitats de major sensibilitat o capacitat de generar espais confinats)

**Sector 6 - Residencial**

- Contacte directe amb material superficial afectat a zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc admissible (per a residents i usos comercials en edificis i guarderia)
- Situacions d'explosivitat: no previsible (el sector es troba fonamentalment sobre terreny natural, no havent-se detectat la presència de gasos d'abocador). No obstant això no es descarta una mobilització limitada de gasos en l'entorn dels rebliments
- Actuació requerida:
    - Correctora en cas de presentar-se material afectat en superfície a zones d'ús sensible
    - Preventiva
        - Limitació de la dispersió de gasos de la zona de rebliments del vas d'abocador i limitació de zones de possible confinament.
        - Limitació de la presència d'usos sensibles en exteriors als voltants del vas de l'abocador (zones d'esbarjo, etc)

**Sector 7 - Parcs exteriors i sistemes tècnics**

- Contacte directe amb material superficial afectat a zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment.
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc no admissible per inhalació de vapors del sòl i gasos d'abocador (residents i treballadors)
- Situacions d'explosivitat: sí
- Actuació requerida: correctora
    - Limitar la presència de material afectat en superfície
    - Limitació de la dispersió de gasos de la zona de rebliments del vas d'abocador en exteriors i limitació de zones de possible confinament.
    - Limitar la presència d'usos del sòl per als que es donen situacions de risc no admissible

**Sector 8 - Parc de la Ciència, serveis tècnics i parcs**

- Contacte directe amb material superficial afectat en zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc no admissible per inhalació de vapors del sòl i gasos d'abocador (residents i treballadors)
- Situacions d'explosivitat: no previsible
- Actuació requerida: correctora
    - Limitar la presència de material afectat en superfície
    - Limitació de la presència de gasos en superfície (interior d'edificis, exteriors) i acumulació en estructures subterrànies.

**Sector 9 - Equipament-centre cultural**

- Contacte directe amb material superficial afectat en zones no pavimentades: risc potencial no admissible per a residents en cas de contacte amb material de rebliment
- Inhalació de vapors del sòl i aigua subterrània en interiors i exteriors: situació de risc no admissible per inhalació de vapors del sòl i gasos d'abocador (residents i treballadors)
- Situacions d'explosivitat: sí
- Actuació requerida: correctora
    - Limitar la presència de material afectat en superfície
    - Limitació de la presència de gasos en superfície (interior d'edificis, exteriors) i acumulació en estructures subterrànies.
    - Actuacions dirigides a limitar l'afecció en aigua subterrània en prevenció d'increments d'afecció que poguessin donar lloc a situacions de risc

## 9.4 Conclusions generals

La valoració global sobre l'avaluació de riscos associats a la presència d'afecció en la massa de rebliments de l'abocador de Can Planes sobre el pla urbanístic inicialment proposat llança les següents conclusions:

- Hi ha una afecció generalitzada en sòl (material de rebliment del vas d'abocador) i aigua subterrània (associada al vas d'abocador i a terreny natural en punts localitzats de connexió hidràulica), donant-se la presència de gasos associada els compostos volàtils detectats en aquests medis, així com de gasos generats en el mateix abocador (reaccions químiques i biològiques fonamentalment associades a les sals d'alumini i degradació de matèria orgànica).
- Sota la situació actual es dóna una situació admissible per als usos establerts en l'entorn del vas de l'abocador
- No es descarten situacions adverses puntuals i aïllades per a receptors presents sobre la massa de rebliment actual
- Sota la situació actual serien necessàries mesures de caràcter preventiu orientades a detectar possibles alteracions en les concentracions de contaminants sobre els receptors. Així mateix, l'establiment de nous usos o activitats haurà de ésser valorat de forma detallada
- D'acord al Planejament Urbanístic aprovat, es donarien situacions de risc no admissible associades a:
    - Contacte directe amb el material de rebliment afectat en cas de trobar-se aquest en superfície
    - Inhalació de vapors (en interiors i exteriors) provinents del material de rebliment i aigua subterrània durant l'activitat normal dels receptors en aquells sectors situats de forma parcial o total en l'àmbit del vas de l'abocador
- Es conclou que a causa de la presència de gasos hi ha una situació de risc potencial associada a:
    - L'exposició dels receptors en el desenvolupament de la seva activitat habitual tant en interiors com en exteriors (ús residencial i comercial)
    - La presència d'espais confinats o la ocurrencia d'acumulació de gasos en espais tancats que originin situacions de risc per explosivitat o exposició aguda
- La mobilitat que aquests gasos presenten, fan difícil delimitar escenaris de risc acceptable sota la situació actual, especialment sobre aquells sectors que es troben dins el límit de l'abocador de forma total o parcial, on no es pot garantir una situació estable en quant al nivell dels contaminants.
- Si bé la sensibilitat i el grau d'exposició indiquen diferents nivells de risc per als sectors i receptors considerats, les mesures preventives i correctores a prendre hauran de tenir un enfocament global sobre el vas de l'abocador i sobre aquelles zones en què s'esperi una transferència de contaminants en fase gasosa o dissolta cap a l'entorn de l'abocador.

- En resum els usos previstos en el planejament urbanístic inicial, són incompatibles amb la distribució actual de l'afecció a la superfície corresponent al vas de l'abocador. Així mateix, en el cas dels gasos, donada la mobilitat dels mateixos, s'estima un risc potencial a les zones limítrofes a l'abocador per transferència a través de rebliments i terrenys natural (tant a la zona no saturada com a través de l'aigua subterrània). Respecte a l'aigua subterrània, si bé els nivells d'afecció detectats no impliquen un risc inadmissible sota els escenaris descrits, no es podria descartar de forma definitiva la presència de riscos no admissibles per a la salut humana en cas de canvis en els usos previstos en el planejament urbanístic o en cas d'usos d'abastament de la mateixa.
- Si bé s'han definit els nivells d'afecció acceptables per a cadascun dels usos previstos en el planejament urbanístic d'acord amb les zones o sectors definits, les mesures correctores a plantejar hauran de complir amb cadascun d'ells de forma particular però, així mateix, hauran de presentar un caràcter global donat l'alt risc de mobilització de contaminants al llarg de l'àmbit de l'abocador.

## 10. PLANTEJAMENT DE MESURES CORRECTORES I PREVENTIVES

### 10.1 Descripció general

Les mesures correctores i preventives a desenvolupar aniran encaminades a controlar o reduir el risc a nivells acceptables de manera que els diferents usos previstos a l'abocador de Can Planas i el seu entorn siguin compatibles amb l'estat mediambiental del mateix.

Totes les mesures possibles tindran com a objectiu la limitació de l'exposició als composts que suposen un risc no acceptable per als receptors valorats.

Les actuacions a desenvolupar es classifiquen de la següent manera;

- Actuacions sobre els usos del terra
  - Redistribució dels usos o activitats previstes assignant-los espais en els quals no es doni un risc no admissible
  - Es tracta de la mesura inicialment més efectiva ja que suposa l'aïllament definitiu dels receptors al focus d'exposició
- Actuacions sobre el receptor
  - Es tracta de limitar l'exposició mitjançant el desenvolupament de mesures constructives o barrera que limitin en transport o difusió de contaminants cap al punt d'exposició (cas de la difusió de gasos) o bé cancel·lin la via d'exposició (cas del contacte directe amb el terra afectat mitjançant paviment)
  - Es contemplen també en aquest cas la gestió adequada de les estructures subterrànies evitant situacions de risc al receptor per acumulació de gasos
  - Aquestes mesures no suposen la reducció en la font a concentracions admissibles per tant depenen en un alt grau de l'efectivitat de la barrera dissenyada i del seu manteniment a llarg termini
- Actuacions sobre la font d'exposició
  - Es tracta de reduir les concentracions en la font d'exposició a nivells acceptables mitjançant tècniques de remediació activa
  - L'efectivitat d'aquestes tècniques dependrà del grau de la tipologia del terreny, extensió i delimitació de l'afecció així com la composició de la mateixa, donant-se major complexitat en el tractament a major grau d'extensió i a hetereogeneidad en l'afecció.
  - Les tècniques de remediació a aplicar es distingeixen en tècniques in-situ (actuació sobre la font a tractar sense extracció o trasllat de la mateixa) o ex-situ (prèvia extracció del material afectat i posterior tractament)

D'acord al diagnòstic ambiental i valoració de riscs obtinguda, les mesures correctores a desenvolupar en el context de l'abocador de Can Planas hauran d'anar enfocades a;

- Limitació dels usos en l'àrea afectada que suposin un risc no admissible per als receptors
- Implantació de sistemes d'immobilització i control de l'afecció a l'abocador
- Limitació de la presència de gasos tant en superfície com en l'interior d'edificis i estructures subterrànies
- Limitació de la mobilització de gasos a través del material de rebliment, terra natural i aigua subterrània
- Limitació de la mobilització de contaminants en fase dissolta a través de l'aigua subterrània anés dels límits de l'abocador a fi de mantenir controlada la ploma d'afecció generada
- Instal·lar sistemes de control i monitoratge de l'afecció en abocador a fi de prendre mesures preventives en cas necessari
- Quant al desenvolupament d'estructures (edificis, conduccions, etc)
    - Limitar la presència de soterranis evitant la presència d'espais de confinament i el contacte de les estructures amb material de rebliment afectat o el nivell freàtic al vas de l'abocador o zones de terreny natural afectades
    - Per tant s'entén que la situació més favorable quant a la difusió de gasos en l'interior d'edificis és aquella en la qual hi ha limitat el contacte amb el terra afectat (cambres d'aire en superfície, etc.), o el material afectat ha estat aïllat mitjançant materials adequats de les estructures

La gestió de la problemàtica associada a la presència de gasos podria presentar les següents pautes;

- Reubicació dels sectors o usos més sensibles i/o d'aquells que no permetin la implantació de mesures de barrera pels seus requeriments constructius
- Limitació de la difusió de gasos en superfície mitjançant
    - Desenvolupament d'un sistema de segellat de l'abocador d'acord a la normativa aplicable i adequat amb els pertinents sistemes de recollida de gasos i lixiviats
    - Sistema de recollida i tractament de gasos al llarg de l'abocador
    - Elements constructius d'alta permeabilitat per als gasos detectats
    - Limitar la presència d'estructures subterrànies susceptibles d'acumular gasos
    - Implementar un sistema de ventilació adequat en estructures subterrànies i edificis

- Implantació de sistemes de control de gasos i aigua subterrània

## 10.2 Valoració d'alternatives

Després de la valoració dels resultats obtinguts en l'avaluació de riscs per a la salut humana, es plantegen les següents mesures correctores i preventives, sobre les que es valora la seva viabilitat i efectivitat des del punt de vista del risc.

Es plantegen les següents opcions;

- Excavació Total de l'Abocador
- Excavació Parcial de l'Abocador
- Segellament Total de l'Abocador
- Actuació mixta
- Gestió de l'Ús Futur
- Tractament " In Situ"

Taula 4 *Resum de mesures correctores aplicables*

| | Descripció | Actuació sobre el risc |
|---|---|---|
| **1.A.** | Excavació Total de l'Abocador | La retirada del material afectat implica l'eliminació de la font i per tant dels riscs associats al rebliment.<br>Precisa un tractament de l'aigua subterrània del vas d'abocador (bombament i tractament/gestió en superfície o pump & treat)<br>Risc potencial residual en aigua subterrània (terreny natural) atenuable en el temps després d'eliminar la font d'afecció al vas d'abocador. Inicialment no es requereix actuació sobre l'aigua subterrània en terreny natural al no donar-se situacions no admissibles<br>No elimina riscs potencials associats a la dispersió atmosfèrica de gasos a la població, implica valorar la distància mínima de seguretat per a la població davant del nou desenvolupament urbanístic<br>Instal·lació de sistemes de monitoratge<br>És necessari valorar els riscs associats al lloc de destinació del material excavat d'acord al tractament previst (dipòsit de seguretat, reutilització, etc.) |
| **1.B.** | Excavació Parcial de l'Abocador | L'excavació i retirada selectiva dels materials més afectats (aquells amb major càrrega contaminant que superin els valors admissibles), permet la presència de materials de menor grau d'afecció (aquells amb concentracions admissibles).<br>Si bé no es realitza una retirada completa de la font d'afecció, s'assumeix una situació de risc admissible<br>Limitacions quant a la distribució heterogènia de materials i la garantia de qualitat del material romanent.<br>És necessari valorar els riscs associats al lloc de destinació del material excavat d'acord al tractament previst (dipòsit de seguretat, reutilització, etc.) |
| **2.** | Segellat Total de l'Abocador | El segellament de l'abocador implica l'eliminació del risc per contacte directe amb material afectat i la limitació del risc per exposició en superfície a composts volàtils per inhalació i situacions d'explosivitat<br>Els materials i característiques de la cobertura del segellament seran avaluats en funció a les concentracions |

| | Descripció | Actuació sobre el risc |
|---|---|---|
| | | trobades i els valors d'exposició permesos d'acord als usos previstos.<br>Possibilitat d'ubicar els usos de major sensibilitat a les zones de segellament de menor afecció.<br>El sistema implicaria un descens en la taxa d'infiltració d'aigua en vas d'abocador limitant en part la presència de fluxes d'aigua subterrània afectats cap al terreny natural. No obstant això, aquesta opció no s'ha de considerar com un sistema d'actuació sobre l'aigua subterrània ja que no pretén garantir uns objectius de qualitat. Existeix per tant un risc residual associat a l'aigua subterrània<br>L'opció viable per a la gestió de riscs potencials associats a l'aigua subterrània és l'aïllament total del vas d'abocador mitjançant segellament total, completant el procés amb el desenvolupament d'una pantalla hidràulica desenvolupada sobre l'aqüífer de recàrrega<br>Sota la circumstància actual les concentracions en aigua subterrània no presenten un risc no admissible<br>Requereix<br>Sistema de gestió en l'extracció i tractament de gasos així com un sistema de control de qualitat d'aigua subterrània dins i fora de l'abocador<br>⇒ Establiment de criteris de seguretat en la construcció i ubicació d'estructures subterrànies al terreny natural en els voltants del segellament en previsió a una potencial transferència de gasos<br>⇒ Limitació dels usos de la zona de segellament a activitats en exteriors sense la presència d'estructures que travessi o alteri les capes d'aïllament<br>⇒ Preservar un espai per a la instal·lació de sistemes d'extracció i tractament de gasos d'abocador<br>⇒ Limitar a futur la possibilitat de realitzar obres sobre el segellament que impliquin l'alteració del mateix<br>⇒ Establiment de sistemes de control i monitoratge |

| | Descripció | Actuació sobre el risc |
|---|---|---|
| **3.** | Gestió de l'Ús Futur | Limitació i reubicació de tots aquells usos incompatibles amb l'estat ambiental del terra i aigua subterrània.<br>No suposa cap tipus d'actuació sobre la font d'afecció<br>Necessita de la instal·lació de sistemes de control i monitoratge<br>Aquesta mesura suposa la limitació d'usos residencials i comercials tant en interiors com en exteriors en l'àrea de l'abocador i zones d'influència, generant un perímetre de seguretat al voltant del mateix on quedarien també limitats els usos. |
| **4.** | Tractament "In Situ" | Reducció de les concentracions en la font fins a nivells acceptables per als usos previstos i ocupació de l'àrea de l'abocador d'acord al pla inicial<br>Atenuació progressiva de les concentracions en aigua subterrània en terreny natural. Inicialment no es requereix actuació sobre l'aigua subterrània en terreny natural en no donar-se situacions no admissibles<br>Possible requeriment d'accions posteriors en cas de modificació en els usos del terra<br>Efectivitat variable en funció al tipus de contaminant i al sistema de remediació implantat<br>Possibilitat de llargs terminis d'execució i manteniment de sistemes de remediació i monitoratge |
| **5.** | Actuació mixta | Considerant;<br>⇒ Segellament parcial de l'abocador<br>⇒ Gestió i reubicació dels usos del terra, limitant la presència d'usos sensibles a la zona del segellament<br>⇒ Gestió del risc residual dels materials no inclosos en l'abast del segellament així com de les zones de límit de segellament mitjançant les tècniques més apropiades, sent d'aplicació;<br>⇒ Remediació activa (els valors objectiu de remediació seran avaluables d'acord a la configuració final en la distribució d'usos i les fonts d'exposició resultants) |

| | Descripció | Actuació sobre el risc |
|---|---|---|
| | | ⇒ Excavació i gestió de materials<br>⇒ Solucions constructives (selecció de materials constructius específics, additius, estructures d'aïllament, etc.)<br>Aquesta mesura suposaria;<br>⇒ Sistema de gestió en l'extracció i tractament de gasos així com un sistema de control de qualitat d'aigua subterrània dins i fora de l'abocador<br>⇒ Establiment de criteris de seguretat en la construcció i ubicació d'estructures subterrànies al terreny natural en els voltants del segellament en previsió a una potencial transferència de gasos Aquesta mesura suposaria<br>⇒ Limitació dels usos de la zona de segellament a activitats en exteriors sense la presència d'estructures que travessi o alteri les capes d'aïllament<br>⇒ Preservar un espai per a la instal·lació de sistemes d'extracció i tractament de gasos d'abocador<br>⇒ Limitar a futur la possibilitat de realitzar obres sobre el segellament que impliquin l'alteració del mateix<br>⇒ Establiment de sistemes de control i monitoratge<br>⇒ A les zones en les que el segellament no inclou la totalitat dels materials de rebliment o allà on s'estimi una potencial transferència de gasos d'abocador, aquest haurà de completar-se amb una pantalla que penetri com a mínim fins al fons de vas d'abocador i presenti qualitats impermeables per als gasos, evitant la difusió dels mateixos a zones d'ús sensible.<br>El sistema implicaria un descens en la taxa d'infiltració d'aigua en vas d'abocador limitant en part la presència de fluxes d'aigua subterrània afectats cap al terreny natural.<br>Les pantalles proposades no tenen caràcter de pantalla hidràulica i per tant no es consideren efectives en el control |

| | Descripció | Actuació sobre el risc |
|---|---|---|
| | | dels fluxes d'aigua subterrània i evolució de plomes d'afecció, especialment fora dels límits de l'abocador.<br>Aquesta opció no s'ha de considerar com un sistema d'actuació sobre l'aigua subterrània ja que no pretén garantir uns objectius de qualitat.<br>Risc residual associat a la presència d'afecció en aigua subterrània en terreny natural. Sota la situació actual la situació es considera admissible |

Des del punt de vista del risc, les mesures més efectives són aquelles que anul·len l'exposició als receptors mitjançant;

- La reubicació dels mateixos anés de l'àmbit de l'àrea afectada i garantint que no existeix via d'exposició possible o bé eliminant la font d'exposició
- Aplicació de tècniques de recuperació amb l'objectiu d'eliminar la font d'exposició o bé reduir les concentracions a nivells acceptables.

### 10.3 Proposta d'alternativa en la gestió del risc

Donada l'extensió i complexitat de l'abocador de Can Planas així com les necessitats constructives plantejades, la solució mixta es considera inicialment com la més viable des d'un punt de vista global (aspectes tècnics, socials i econòmics).

En una primera aproximació s'han avaluat els objectius a complir en una solució mixta basada en el següent enfocament;

- Limitació d'ús i segellament parcial d'abocador a la zona ocupada per materials no perillosos i perillosos. Es proposa el desenvolupament de zones verdes i passeig, sense el desenvolupament d'estructures subterrànies o fonamentacions.
- Desenvolupament d'usos inicialment previstos (s'assumeixen redistribucions dels mateixos en funció a l'espai disponible) a les zones ocupades per materials no inerts i rebliments de terres.

La distribució de residu romanent es presenta a les figures 4 i 5 (Annex 6)

A la figura 2 es mostra la distribució del segellament respecte als materials de rebliment.

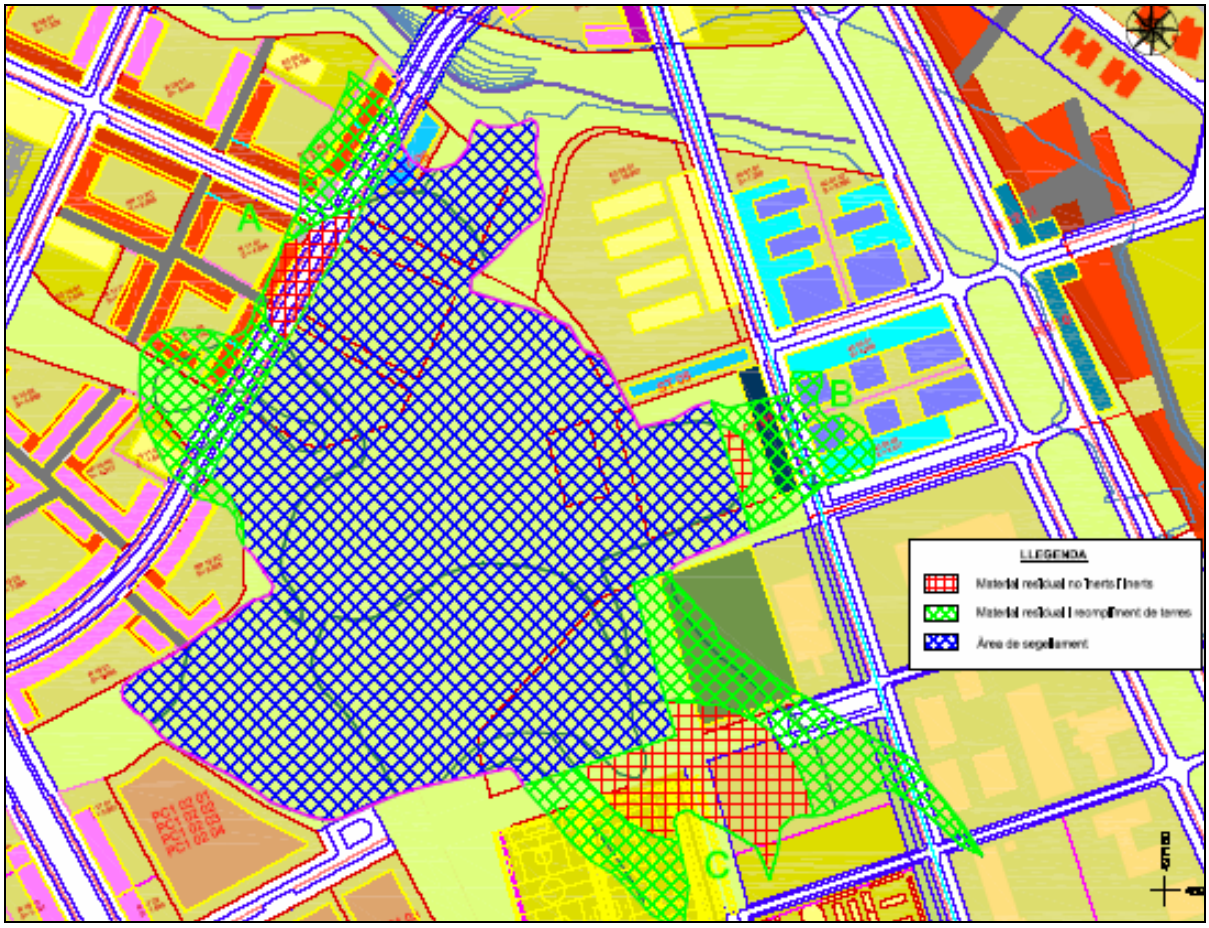



Figura 2. Distribució del segellament proposat i reompliment residual

### *10.3.1 Identificació d'elements de risc potencial*

Com elements de risc potencial a avaluar es diferencien

- Usos localitzats sobre la massa de rebliment dins de l'àrea de segellament, en el qual el risc potencial vindria donat per la presència de gasos en superfície
- Usos localitzats sobre la massa de rebliment externa al segellament, en el qual es distingeixen dues fonts de risc;
    - Risc associat a la presència de material afectat i/o aigua subterrània en concentracions superiors a les admissibles per a l'ús previst al material romanent sobre el qual s'assenta l'ús o activitat
    - Risc de difusió de gasos de la massa de l'abocador
- Usos localitzats en terreny natural i limitant amb la zona de segellament, on s'assumeix una possible transferència de gasos a través del terreny natural i estructures subterrànies i aigua subterrània

### *10.3.2 Proposta de gestió dels riscs potencials plantejats*

- Usos localitzats sobre la massa de rebliment dins del límit del segellament d'abocador.
    - Els riscs associats al contacte directe amb material afectat queden suprimits en incorporar-se al capa de segellament.
    - Els riscs potencials associats a una possible transferència de gasos cap a la superfície quedaran limitats a nivells admissibles mitjançant la instal·lació de materials d'alta permeabilitat a vapors i recolzat pel sistema d'extracció i gestió de gasos previst
    - Sobre el disseny del sistema de segellament es consideraran les següents variables;
        - Concentracions en superfície admissibles d'acord als usos esperats (comercial i residencial en exteriors) i límits d'explosivitat per a gasos d'abocador
        - Càlcul del grau d'atenuació necessari respecte a les concentracions de gas mesurades a la zona no saturada del rebliment d'abocador i adequació a les especificacions dels materials a emprar
        - Disseny adequat del sistema de ventilació mitjançant l'aplicació de les dades experimentals obtingudes (assaigs de buit) i especificacions del sistema de ventilació a implantar
- Usos localitzats sobre la massa de rebliment externa al segellament
    - A fi d'aïllar la massa de rebliment principal i realitzar una tasca de segellament efectiva, es proposa el desenvolupament d'un mur pantalla

que assoleixi el terreny natural, aquest mur permetrà el tractament de la massa de rebliment residual en cas necessari i suposarà una barrera limitant a la difusió de gasos.

- En cas de superar-se les concentracions admissibles per als usos previstos, s'hauran de prendre mesures addicionals que segons les concentracions admissibles requerides i les característiques constructives, consistirien bàsicament en l'excavació i gestió del material afectat i/o la implantació de mesures constructives addicionals sobre les estructures (especialment estructures subterrànies i elements de possible confinament de gasos)
- En cas de detectar-se concentracions superiors a saturació (presència de fase lliure) hauria de ser retirada a fi de garantir situacions acceptables o bé implantar mesures preventives enfront de la presència de vapors en superfície

En una primera aproximació, el material romanent no inclòs en el segellament de l'abocador mostra les següents característiques.

Taula 5 Característiques del residu romanent

| Zona | Sectors involucrats | Usos proposats | Tipologia de material | Elements de risc | Acció requerida |
|---|---|---|---|---|---|
| A | S1<br>S2<br>S4<br>S6 | Serveis tècnics (S2)<br>Residencial (presència d'edificacions) (S1, S4, S6) | Rebliment de terres (S1, S2, S4)<br>Residu inert (S2, S4)<br>Residu no inert (S4) | Tots els sectors: difusió de gasos des de la massa de rebliment: situacions de risc potencial no admissible i explosivitat<br>S1: Risc per contacte directe (rebliment terres)<br>S2: Risc per contacte directe, inhalació vapors sòl (interior/exterior)<br>S4: Risc per contacte directe, inhalació vapors sòl i aigua subterrània (interior/exterior)<br>S6: Risc per contacte directe | Mur pantalla: limitació de la difusió de gasos de la massa de rebliment i sistema de control i extracció<br>Limitació del contacte directe mitjançant paviment o abassegaments (S1, S2, S4, S6)<br>Tractament/gestió del material a l'àrea corresponent als sectors S2 i S4:<br>⇒ Limitació de l'ús<br>⇒ Excavació i gestió<br>⇒ Mesures constructives (limitar estructures subterrànies entre d'altres)<br>⇒ Remeiació activa in-situ<br>⇒ Definició de mesures estructurals en prevenció a l'exposició de vapors de l'aigua subterrània |

| Zona | Sectors involucrats | Usos proposats | Tipologia de material | Elements de risc | Acció requerida |
|---|---|---|---|---|---|
| B | S5 | Comercial (presència d'edificacions) | Rebliment de terres<br>Residu inert<br>Residu no inert | Difusió de gasos des de la massa de rebliment:: situacions de risc potencial no admissible per explosivitat<br>Risc per contacte directe, inhalació vapors del sòl (interior/exterior) | Mur pantalla: limitació de la difusió de gasos de la massa de rebliment i sistema de control i extracció<br>Limitació del contacte directe mitjançant paviment o abassegaments<br>Tractament/gestió del material<br>⇒ Limitació de l'ús<br>⇒ Excavació i gestió<br>⇒ Mesures constructives (limitar estructures subterrànies entre d'altres)<br>⇒ Remeiació activa in-situ<br>⇒ Definició de mesures estructurals en prevenció a l'exposició de vapors de l'aigua subterrània |

| Zona | Sectors involucrats | Usos proposats | Tipologia de material | Elements de risc | Acció requerida |
|---|---|---|---|---|---|
| C | S9 | Comercial<br>Esportiu (exteriors) | Rebliment de terres<br>Residu inert<br>Residu no inert | Difusió de gasos des de la massa de rebliment:: situacions de risc potencial no admissible per explosivitat<br>Risc per contacte directe, inhalació vapors del sòl (interior/exterior) | Mur pantalla: limitació de la difusió de gasos de la massa de rebliment i sistema de control i extracció<br>Limitació del contacte directe mitjançant paviment o abassegaments<br>Tractament/gestió del material<br>⇒ Limitació de l'ús<br>⇒ Excavació i gestió<br>⇒ Mesures constructives (limitar estructures subterrànies entre d'altres)<br>⇒ Remeiació activa in-situ<br>⇒ Definició de mesures estructurals en prevenció a l'exposició de vapors de l'aigua subterrània |

Els compostos de risc i les concentracions admissibles pertinents es presenten a l'Annex 4, incloent els resultats obtinguts per a

- Usos localitzats sobre la massa de rebliment dins del límit del segellament d'abocador (es considera representatiu el diagnòstic realitzat al sector 7).
- Usos localitzats sobre la massa de rebliment externa al segellament

La limitació fonamental d'aquesta mesura quant a la limitació de riscs potencials es dóna sobre l'aigua subterrània, ja que, fins i tot assolint-se el nivell freàtic associat al rebliment d'abocador (la pantalla assoliria el terreny natural en tots els casos), aquesta mesura no suposa una barrera hidràulica pròpiament dita de manera que l'efecte esperat serà una alteració puntual i localitzada del fluxe d'aigua subterrània. Per tant, quant a la dispersió de l'aigua del vas d'abocador al terreny natural localitzada a les cubetes NE i S, no es tractaria d'una mesura efectiva quant a la mobilització de contaminants.

*10.3.3 Consideracions en la valoració de riscs i desenvolupament final de les concentracions residuals admissibles i paràmetres constructius*

- Es prendran de forma particular els composts i concentracions i característiques del terreny i rebliments a cada una de les zones de risc residual, considerant en cada cas l'ús previst
- La valoració de l'exposició dels receptors potencials (definició de patrons d'exposició), així com les referències toxicològiques i criteris de valoració del risc seran els exposats en la metodologia
- Per a cada cas particular es valorarà l'índex de risc corresponent considerant els possibles efectes acumulats (càncer i no càncer) que poguessin donar-se
- En cada cas s'obtindrà la concentració residual admissible pertinent per als composts específics involucrats en cada àrea o zona de gestió del risc
- Els paràmetres constructius a desenvolupar partint de les característiques de materials requerides (fonamentalment en el cas de permeabilitat a gasos) es decidiran d'acord al cas més restrictiu
- Una vegada definit amb detall l'escenari de risc a desenvolupar, es desenvoluparà la pertinent anàlisi d'incerteses que permetrà reavaluar, en cas necessari, paràmetres concrets (fonamentalment en el cas de valoració de propietats constructives)

Totes les mesures correctores definitives aniran orientades d'acord als resultats obtinguts en la present anàlisi de riscs, no obstant això el seu disseny i efectivitat seran avaluats mitjançant la pertinent actualització de l'anàlisi de riscs.

Una vegada definides les actuacions a desenvolupar podran ser avaluats els efectes sobre la població associats a l'emissió de gasos de la superfície de l'abocador (o altres sistemes d'extracció i emissió que poguessin instal·lar-se en un futur). Inicialment es podria esperar que sobre la situació futura les concentracions de gasos en la població no incrementin respecte a la situació actual, tanmateix es considera que durant l'execució de les obres la intervenció sobre el material de rebliment pogués suposar un increment de les concentracions atmosfèriques pel que es recomana la seva valoració.

Barcelona, 24 de Novembre de 2008



**Germán Monge Ganuzas**
**Director de Projecte**



**Segimon Serrat Serra**
**Supervisió de Qualitat i Valoració Tècnica**



**Ana Rojas Calero**
**Tècnic Especialista en Avaluació de Riscos Ambientals**

# Annex 1

# Diagnòstic mediambiental

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| 1 | SP1 | Terreny natural | | No es detecten indicis d'afecció en terreny natural | MP, TPH (i) | Associat a nivell aqüífer del terreny natural al límit de l'abocador. Afecció limitada per MP i TPH en nivells superiors als valors de referència. Afecció associada al vas d'abocador | ND | ND | - | ÚS: Residencial, Parcs interiors, Equipament<br>El sector 1 es troba sobre rebliments de terres i sòl natural al límit de l'abocador.<br>Estrat de rebliments sense afecció rellevant.<br>No es detecten indicis d'afecció al terreny natural<br>Distribuït sobre nivells aqüífers del terreny natural i per la conca NE del vas d'abocador.<br>Afecció rellevant per TPH a l'aqüífer del terreny natural fora dels límits de l'abocador.<br>No es detecta afecció rellevant per gasos d'abocador o compostos volàtils | Es descarten riscos potencials associats a l'afecció en rebliments o sòl natural<br>No s'estima un risc potencial rellevant per inhalació de vapors donada la presència de compostos no volàtils o de baixa volatilitat (les cadenes de TPH detectades en aigua subterrània pertanyen a nivells poc volàtils), no es detecten compostos volàtils associats a TPH com BTEX.<br>No s'estima la presència de riscos rellevants per presència de gasos d'abocador i explosivitat |
| | S2 | Reompliment de terres | **ND** | Estrat sense afecció rellevant | | Associat a la conca NE del vas d'abocador | ND | ND | - | | |
| 2 | S1 | Materials inerts | **Clorur de vinil** | Afecció superficial | | Associat a cubeta NE de vas d'abocador (no s'abasta el nivell freàtic en la massa de reompliment) | ND | ND | - | ÚS: Residencial<br>El sector 2 es troba sobre materials inerts i no inerts, rebliments de terres i terreny natural<br>Afecció superficial rellevant localitzada en materials inerts<br>Distribuït sobre nivells aqüífers del terreny natural i conca N del vas d'abocador.<br>Al no disposar de mostres d'aigua subterrània específiques s'ha valorat com representativa la informació corresponent al punt SP-9 vinculat a l'estrat de rebliments inerts/no inerts presents al sector 2<br>Afecció significativa (superant valors de referència) en nivells d'aigua subterrània associada a vas d'abocador<br>No es detecta afecció rellevant per gasos d'abocador o compostos volàtils (indicatiu de que l'afecció prevista en aigua subterrània es trobaria atenuada) | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els d'alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat<br>Risc potencial per inhalació de vapors associats a sòl (en aquest cas l'afecció de compostos volàtils és limitada per CV) i a aigua subterrània (TPH, BTEX, VOCl). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors (habitatges).<br>No s'estima la presència de riscos rellevants per presència de gasos d'abocador i explosivitat |
| | S2 | Reompliment de terres | **ND** | Estrat sense afecció rellevant | *SP-9: MP (Ba, Cr, Sn, Va (i), TPH (i), BTEX (etilbenzè, xilens (i)), cresols, cis+trans-dicloroetilè, clorur vinil, Mon/diclorobenzens (i), triclorobenzens, diclorofenols* | Associat a la cubeta NE del vas d'abocador. | ND | ND | - | | |
| 3 | SP26 | Terreny natural<br>Límit de l'abocador | | No es detecten indicis d'afecció en terreny natural | **MP, TCE** | Associat a nivell aqüífer del terreny natural al límit de l'abocador | ND | **TPH vol** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | ÚS: Equipament<br>El sector 3 es troba sobre rebliments superficials i terreny natural.<br>No es detecten indicis d'afecció en terreny natural ni en rebliments | Es descarten riscos potencials associats a materials de reompliment / sòl natural (afecció no detectada)<br>Riscos potencials per inhalació de compostos volàtils presents en aigua subterrània (TPH, BTEX, VOCl). Només es donarien riscos |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | Pz 3 | Terreny natural | | | **MP (Ni(i)), TPH, BTEX , (Benzè, xilens), PCE, CV, tricolorobenzens, diclorofenols** | Associat a nivell aqüífer del terreny natural al límit de l'abocador | | | | Influenciat en la seva totalitat per l'aigua subterrània corresponent al terreny natural. Connexió hidràulica amb la cubeta NE del vas d'abocador<br><br>Afecció detectada en nivells d'aigua subterrània de l'aqüífer natural relacionada amb la cubeta NE del vas d'abocador (supera valors d'intervenció per a MP).<br><br>Presència de compostos volàtils d'hidrocarburs en la zona no saturada del sòl natural associats a l'afecció present en aigua subterrània<br><br>No es detecta afecció rellevant per gasos d'abocador | potencials associats a la presència de MP en aigua subterrània en cas d'usos directes de la mateixa. Es considera especialment sensible el risc per inhalació associat a espais interiors.<br><br>No s'estima la presència de riscos rellevants per presència de gasos d'abocador i explosivitat |
| **4** | S3 | Materials no inerts i inerts | **3 m: MP, TPH**<br>**10 m: MP, BTEX, PAH (naftalè), TPH, PCB, ftalats** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada incrementant les concentracions en profunditat | | Associat a cubeta NE de vas d'abocador | **$CH_4$ (LEL), $H_2S$,$NH_3$, Toluè,** | **BTEX, CV, NH3** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | ÚS: Residencial<br><br>El sector 4 es troba sobre rebliments de terres, material inert i no inert<br>Afecció generalitzada en materials de reompliment inerts/no inerts localitzada en profunditat, donant-se de forma puntal afecció al llarg de tota la columna caracteritzada abastant nivells superficials.<br><br>Distribuït sobre les cubetes NE i N de vas d'abocador (el límit del sector es troba sobre terrenys naturals)<br>Es descarta una connexió hidràulica entre les cubetes N i NE diferenciant-se la tipologia d'afecció en aigua subterrània detectada a cadascuna d'elles<br>Afecció rellevant (MP, hidrocarburs del petroli (TPH, BTEX) i VOCL en nivells superiors als valors de referència) en aigua subterrània associada a rebliments de la cubeta NE de vas d'abocador.<br>Afecció limitada per MP en la cubeta N de vas d'abocador en aquest sector<br><br>Afecció rellevant generalitzada al llarg de l'estrat per gasos d'abocador, altres compostos volàtils i explosivitat. Associats fonamentalment a materials inerts/no inerts i puntualment a rebliments inerts.<br>Els gasos detectats estan relacionats amb l'afecció en reompliment i aigua subterrània per compostos volàtils | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els de alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat. Limitat a les zones on se detecta afecció superficial<br><br>Risc potencial per inhalació de vapors associats a sòl (TPH, BTEX, PAH, VOCl) i a aigua subterrània de vas d'abocador (cubeta NE) (TPH, BTEX, VOCl). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors (habitatges).<br><br>Es descarten riscos associats a aigua subterrània de la cubeta N per inhalació de compostos volàtils. Només es donarien situacions de risc potencial associades a la presència de MP en cas d'ús directe d'aigua subterrània<br><br>Risc potencial per presència de gasos d'abocador i explosivitat (especialment sensible en espais tancats o estructures amb potencial d'acumulació de gasos) |
| | S4 | Reompliment de terres | **ND** | Estrat sense afecció rellevant | | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | - | | |
| | S5 | Materials no inerts i inerts | **12 m: MP, BTEX, etilfenol+, PAH, TPH, pentaclorofenol, ftalats+**<br>**14 m: BTEX (Toluè), PAH, TPH , 1,2,4-triclorobenzè, tetraclorobenzens+, pentaclorofenol** | Afecció localitzada en profunditat | | Associat a cubeta NE de vas d'abocador | **$CH_4$ (LEL), CO, $H_2S$, $NH_3$, Toluè** | **BTEX, TCE, CV, NH3, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S7 | Reompliment de terres | **1 m: MP (Zn)**<br>**17 m: MP(Cu)** | Afecció generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta N de vas d'abocador al límit del sector | **ND** | **ND** | - | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | S9 | Materials no inerts i inerts | **8 m: MP(Cu, Zn), TPH, cis+trans DCE, CV, 1.4 diclorobenzè, pentaclorofenol, metilftalats+** | Afecció localitzada en profunditat | | Associat a cubeta S de vas d'abocador al límit del sector.<br><br>No es considera representatiu del sector 4 a nivell d'afecció en aigua subterrània | **$CH_4$ (LEL), CO, $H_2S$, $NH_3$, Toluè, PCE** | **NH3, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SG1 | Materials no inerts i inerts | **ND** | Estrat sense afecció rellevant distribuït a lo llarg de la columna | | Associat a cubeta N de vas d'abocador | **$CH_4$ (LEL), CO, $NH_3$, Toluè** | **TPH vol, BTEX, 1.1-DCA, TCE, cis,trans-DCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP9 | Materials inerts/no inerts | **12 m: MP(Cu, Pb, Zn), BTEX(Toluè), trimetilbenzens+, PAH (Benzo a pirè), TPH, PCB** | Afecció localitzada en profunditat | **MP (Ba, Cr, Sn, Va (i), TPH (i), BTEX (etilbenzè, xilens (i)), cresols, cis+trans-dicloroetilè, clorur vinil, Mon/diclorobenzens (i), triclorobenzens, diclorofenols** | Associat a cubeta NE de vas d'abocador | **$CH_4$ (LEL), $H_2S$, $NH_3$, Toluè, PCE** | **BTEX, PCE, TCE, CV, NH3, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP11 | Materials inerts | | No es detecten indicis d'afecció en terreny natural | **MP** | Associat a cubeta N de vas d'abocador al límit del sector | **$H_2S$, Toluè** | **BTEX, CV, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| 5 | SG2 | Materials no inerts i inerts | | | | Associat a cubeta NE de vas d'abocador | **$CH_4$ (LEL), CO, $NH_3$,** | **TPH vol, BTEX , TCE, CV** | Afecció localitzada en profunditat (10 m), sense rellevància en estrat superior | ÚS: Comercial, serveis tècnics<br><br>El sector 5 es troba sobre materials inerts i no inerts<br>Afecció localitzada en profunditat associada a materials de reompliment inerts/no inerts (no es descarta la presència d'afecció a nivells superiors de l'estrat donada la presència de gasos generalitzada i la limitació de dades disponibles)<br><br>Distribuït sobre la cubeta NE de vas d'abocador i terreny natural al seu límit E.<br>S'aprecia una connexió hidràulica i dispersió de l'afecció entre la cubeta NE d'abocador i el terreny natural amb migració de l'afecció fora dels límits de l'abocador i afectant a la totalitat del sector<br><br>Afecció en aigua subterrània de la cubeta NE de vas d'abocador per MP, hidrocarburs del petroli (TPH, | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els de alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat.<br><br>Risc potencial per inhalació de vapors associats a sòl (TPH) i a aigua subterrània de vas d'abocador (conca NE) (TPH, BTEX, cresols, PAH, VOCl) i aigua subterrània de aqüífer en terreny natural (TPH, BTEX, VOCl). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors.<br><br>Risc potencial per presència de gasos d'abocador i explosivitat (especialment sensible |
| | SG3 | Materials no inerts i inerts | | | | Associat a cubeta NE de vas d'abocador | **ND** | **TPH vol, BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP12 | Materials no inerts i inerts | **19 m: TPH, Ftalats+** | Afecció localitzada en profunditat | **MP (As, Ba, Cr, Ni, Va (i)), TPH (i); BTEX (benzè, etilbenzè, xilens (i)), cresols (i), PAH (naftalè (i)), mono/diclorobenzens, diclorofenols** | Associat a cubeta NE de vas d'abocador | **$CH_4$ / LEL** | **ND** | | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | SG4 | Materials no inerts i inerts | **ND** | Estrat sense afecció rellevant distribuït a lo llarg de la columna | | Associat a cubeta NE de vas d'abocador | **CO, NH3** | **TPH vol, BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | BTEX, PAH), cresols i VOCL en nivells superiors als valors de referència<br>Afecció en aqüífers del terreny natural per MP, hidrocarburs del petroli (TPH, BTEX, PAH), cresols i VOCL en nivells superiors als valors de referència | en espais tancats o estructures amb potencial d'acumulació de gasos) |
| | SP10 | Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP (Ba, Cr, Sn, Va (i)), TPH (i), BTEX (benzè, xilens (i)), cresols, PCE, diclorometà, , clorur vinil, cis-dicloroetilè, PAH (naftalè), di/triclorobenzens, diclorofenols** | Associat a cubeta NE de vas d'abocador al límit del sector | **$CH_4$ (LEL), CO, $NH_3$,** | **BTEX, TCE, CV, NH3, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | Afecció rellevant generalitzada per gasos d'abocador i altres compostos volàtils al llarg de tot l'estrat caracteritzat fonamentalment en materials inerts/ no inert excepte a un punt localitzat on es localitza afecció en profunditat.<br>Es detecta afecció limitada per gasos d'abocador en els límits d'abocador (reompliment terres).<br>Els gasos detectats estan relacionats amb l'afecció en reompliment i aigua subterrània per compostos volàtils | |
| | SP21 | Reompliment de terres<br>Terreny natural | | No es detecten indicis d'afecció en terreny natural | **MP (Sb, Ni (i)), TPH, BTEX (benzè, xilens), cresols, PCE, diclorometà, , clorur vinil (i), diclorofenols** | Associat a nivell aqüífer del terreny natural al límit de l'abocador<br>Es detecta afecció a aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem SE de la conca NE | **ND** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP6 | Terreny natural | | | **MP (Pb), PCE** | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | | | |
| 6 | S6 | Límits de l'abocador | **ND** | Estrat sense afecció rellevant | | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | - | ÚS: Residencial<br>El sector 6 es troba sobre materials inerts i no inerts<br>Estrat de rebliments sense afecció rellevant exceptuant la presència d'afecció superficial localitzada en els límits del sector associada a materials inerts.<br>Distribuït sobre terreny natural limitant amb el vas d'abocador a les seves cubetes N i S. | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els d'alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat. Limitat a les zones afectades al límit del sector<br>Risc potencial per inhalació de vapors associats a sòl (TPH, PAH). Limitat a les zones afectades |
| | S8 | Límits de l'abocador | **ND** | Estrat sense afecció rellevant | | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | - | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | SP5 | Terreny natural | | No es detecten indicis d'afecció en terreny natural | MP | Associat a nivell aqüífer del terreny natural al límit de l'abocador<br><br>No es detecta afecció rellevant a aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem W de la conca N i S | ND | ND | - | No s'aprecia una connexió hidràulica i dispersió de l'afecció entre les cubetes N i S d'abocador i el terreny natural amb migració de l'afecció fora dels límits de l'abocador i sense afecció a la totalitat del sector<br>Afecció limitada per MP (superant-se el valor d'intervenció per a As), en nivells d'aigua subterrània associats a nivells aqüífers de terreny natural. No s'associa inicialment al vas d'abocador<br><br>Estrat sense afecció rellevant<br>S'estima una possible intrusió de gasos d'abocador procedents de la cubeta S al límit del sector. | al límit del sector. Es considera especialment sensible el risc per inhalació associat a espais residencials interiors (habitatges).<br>Es descarten riscos potencials associats al aigua subterrània del terreny natural (no es detecta la presència de compostos volàtils). Excepte en cas d'aprofitaments de la mateixa en el que es donaria un risc potencial associat a MP<br>Risc potencial per presència de gasos d'abocador i explosivitat provinents de la cubeta S de l'abocador (especialment sensible en espais tancats o estructures amb potencial d'acumulació de gasos) |
| | S24 | Límits de l'abocador | ND | Estrat sense afecció rellevant | MP (As (I)) | Associat a nivell aqüífer del terreny natural al límit de l'abocador<br><br>No es detecta afecció rellevant a aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem W-SW de la conca N | ND | ND | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP3 | Terreny natural | | No es detecten indicis d'afecció en terreny natural | MP | Associat a nivell aqüífer del terreny natural<br><br>No es detecta afecció rellevant a aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem W de la conca N i S | ND | ND | - | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | S12 | Materials inerts | **ND** | Estrat sense afecció rellevant | | Associat a cubeta S de vas d'abocador al límit d'abocador i del sector<br><br>No es considera representatiu del sector 6 a nivell d'afecció en aigua subterrània | **ND** | **ND** | - | | |
| | S15 | Materials no inerts i inerts | **4 m: MP(Pb, Zn), PAH (Benzo a pirè, Indè 123 cd pirè), TPH**<br>**9 m: MP(Cu, Zn), PAH (Benzo a pirè), TPH, Ftalats+** | Afecció generalitzada al llarg de tota la columna caracteritzada | **MP, TPH, BTEX (benzè), cis 1.2-dicloroetilè, di/triclorofenols** | Associat a cubeta S de vas d'abocador al límit d'abocador i del sector.<br><br>No es considera representatiu del sector 6 a nivell d'afecció en aigua subterrània | **$NH_3$** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S13 | Materials inerts | **1 m:, ND**<br>**2 m:, TPH, cis+trans dicloroetilè, Clorur de vinil** | Afecció superficial i generalitzada al llarg de tota la columna caracteritzada | | Associat a nivell aqüífer del terreny natural al límit d'abocador i del sector. | **ND** | **ND** | - | | |
| 7 | SP4 | Terreny natural (Materials no inerts i inerts fins els 10,50 m) | | No es detecten indicis d'afecció en terreny natural | | Associat a límit entre cubeta S d'abocador i nivell aqüífer del terreny natural al límit d'abocador i del sector | **ND** | **ND** | - | ÚS: Parcs interiors, Equipament, Sistemes tècnics generals<br><br>El sector 7 es troba sobre materials inerts i no inerts i rebliments de sals d'alumini<br>Afecció generalitzada al llarg de tot l'estrat de reompliment caracteritzat, associat fonamentalment a materials inerts/no inerts i sals d'alumini.<br>En els límits de l'abocador, i de forma localitzada, es dóna afecció limitada al reompliment superficial o poco rellevant sobre materials inerts. | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els d'alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat. Limitat a les zones afectades al límit del sector<br><br>Risc potencial per inhalació de vapors associats a sòl (TPH, BTEX, PAH, VOCl, aigua subterrània del reompliment de la cubeta S per |
| | SP14 | Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP, BTEX, PCE, clorur vinil, cis 1.2-dicloroetilè, PAH (fenantreno)** | Associat a cubeta S de vas d'abocador al límit amb cubeta N | **$CH_4$ (LEL), $H_2S$, CO, $NH_3$** | **BTEX, TCE, CV, NH3, H2S** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | S10 | Materials no inerts i inerts | **11 m: cis+trans dicloroetilè, Clorur de vinil**<br>**16 m: MP(Sb, Pb, PAH (Benzo a pirè), TPH, 1.2-dicloroetà, Clorur de vinil, 1.2-diclorobenzè, Pentaclorofenol**<br>**24 m: MP(Cu, Zn), PAH (Naftalè), TPH, 1.2-diclorobenzè, Pentaclorofenol, PCB** | Afecció en profunditat generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador en límit amb cubeta NE (no s'abasta el nivell freàtic en la massa de reompliment) | **$CH_4$ / LEL, CO, $NH_3$** | **BTEX, TCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | Es troba distribuït sobre la cubeta S del vas d'abocador limitant amb la cubeta N i NE<br>Existeix connexió hidràulica entre la cubeta NE i S amb dispersió de l'afecció i migració de contaminants amb afecció a la totalitat del sector<br>Afecció en nivells d'aigua subterrània associats a nivells de la cubeta S de l'abocador per MP, hidrocarburs del petroli (TPH, BTEX, PAH), cresols i VOCL a concentracions superiors al nivell d'intervenció<br>Afecció rellevant generalitzada per gasos d'abocador i altres compostos volàtils al llarg de tot l'estrat de reompliment caracteritzat fonamentalment en materials inerts/ no inerts i sals d'alumini. Associada a l'afecció detectada en sòl i aigua subterrània.<br>No es detecta afecció rellevant en els límits d'abocador (materials inerts). | inhalació de compostos volàtils (TPH, BTEX, PAH, VOCl) i altres compostos volàtils detectats (formaldehid). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors<br>Risc potencial per presència de gasos d'abocador i explosivitat (especialment sensible en espais tancats o estructures amb potencial d'acumulació de gasos) |
| | SP13 | Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP (Ba, Cr, Ni (i)),TPH (i), BTEX, cresols, cis 1.2-dicloroetilè, clorur vinil (i), di/triclorobenzens, diclorofenols** | Associat a cubeta NE de vas d'abocador al límit amb cubeta S.<br>Es considera representatiu del sector 7 a nivell d'afecció en aigua subterrània al constatar-se la connexió entre les cubetes NE i S en aquesta zona | **$CH_4$ (LEL), CO, Formaldehid** | **PCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S11 | Materials no inerts i inerts | **3 m:, MP(Mo), TPH, , cis+trans dicloroetilè, Clorur de vinil**<br>**17 m: MP(Cu, Mo, Se, Zn), PAH (Benzo a pirè , Indè 123cd pirè), TPH, Pentaclorofenol, PCB** | Afecció superficial i generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta NE de vas d'abocador al límit amb cubeta S.<br>Es considera representatiu del sector 7 a nivell d'afecció en aigua subterrània al constatar-se la connexió entre les cubetes NE i S en aquesta zona | **$CH_4$ (LEL), $NH_3$,** | **BTEX, PCE, TCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | SG5 | Materials no inerts i inerts | | | | Associat a cubeta S de vas d'abocador | **$CH_4$ (LEL), CO, $NH_3$, Formaldehid** | **TPH vol, BTEX, 1.3.5-1.2.4-Trimetilbenzè, TCE, CV, formaldehid** | Afecció localitzada en profunditat (10 m), sense relevancia en estrat superior | | |
| | SP15 | Zona amb sals d'alumini. Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP (Sb, Cu, Hg, Sn (i)), TPH (i), BTEX, cresols, cis 1.2-dicloroetilè, clorur vinil (i), di/tricolofenols** | Associat a cubeta S de vas d'abocador. Influenciat per la connexió hidràulica amb la cubeta NE del vas d'abocador | **$CH_4$ (LEL), $H_2S$, CO, $NH_3$** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S14 | Materials inerts | **3 m:, MP(Sn, Zn)** | Afecció localitzada en profunditat | | Associat a cubeta S de vas d'abocador al límit d'abocador i cubeta (no s'abasta el nivell freàtic a la massa de reompliment) | **ND** | **ND** | - | | |
| | SG2 | Materials no inerts i inerts | | | | Associat a cubeta NE de vas d'abocador al límit amb cubeta S i del sector | **$CH_4$ (LEL), CO, $NH_3$** | **TPH vol, BTEX , CV** | Afecció localitzada en profunditat (10 m), sense relevancia en estrat superior | | |
| | S9 | Materials no inerts i inerts | **8 m: MP(Cu, ZN), TPH, cis+trans dicloroetilè, Clorur de vinil, 1.4-diclorobenzè, Pentaclorofenol, Metilftalats+** | Afecció localitzada en profunditat | | Associat a cubeta S de vas d'abocador al límit del sector. | **$CH_4$ (LEL), CO, $NH_3$,** | **BTEX, PCE, TCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S12 | Materials inerts | **ND** | Estrat sense afecció rellevant | | Associat a cubeta S de vas d'abocador al límit del sector. | **ND** | **ND** | - | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | SP17 | Zona amb sals d'alumini. Materials no inerts i inerts | **3 m:, MP(Pb, Zn), PAH(Naftalè), TPH, Pentclorofenol, PCB**<br>**12 m: MP(Cu), BTEX (Benzè), PAH (Naftalè, antracè), TPH, PCE, 1.2-dicloroetà, Monoclorobenzè** | Afecció generalitzada al llarg de tota la columna caracteritzada | **MP (Cr, Pb, Va (i)), TPH (i), BTEX (benzè), cresols, di/triclorofenols** | Associat a cubeta S de vas d'abocador<br>Influenciat per la connexió hidràulica amb la cubeta NE del vas d'abocador | **$CH_4$ (LEL), CO,$NH_3$** | **NH3** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S18 | Zona amb sals d'alumini. Materials no inerts i inerts | **16 m: MP(Zn), PAH (Benzo a pirè, indè 123cd pirè), TPH, PCB**<br>**19 m: MP(Se, Zn)** | Afecció en profunditat generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **$NH_3$** | **NH3** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP16 | Abocador – Zona amb sals d'alumini. Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP (Sb, Cu, Sn, Va (i)), TPH (i), BTEX (benzè, xilens), cresols, PCE, clorur vinil (i), di/triclorofenols** | Associat a cubeta S de vas d'abocador<br>influenciat per la connexió hidràulica amb la cubeta NE del vas d'abocador | **$CH_4$ (LEL), CO** | **BTEX, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S16 | Zona amb sals d'alumini. Materials no inerts i inerts | **3,6 m: MP, PAH (Benzo a pirè )**<br>**22 m:, MP(Cu, Hg), PCB**<br>**36 m: ND** | Afecció generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **$CH_4$ (LEL)** | **BTEX,** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SG6 | Zona amb sals d'alumini. Materials no inerts i inerts | | | | Associat a cubeta S de vas d'abocador | **$CH_4$ (LEL), CO, $NH_3$,** | **TPH vol, BTEX, 1.3.5-1.2.4-Trimetilbenzè, TCE, PCE, cis-DCE, CV** | Afecció localitzada en profunditat (10 m).<br>A 5 m només se superan els valors de referència per a TPH vol | | |
| | S13 | Límits de l'abocador<br>Materials inerts | **1 m:, ND**<br>**2 m:, TPH, cis+trans dicloroetilè, Clorur vinil** | Afecció superficial i generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador al límit d'abocador i cubeta (no s'abasta el nivell freàtic en la massa de reompliment) | **ND** | **ND** | - | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | Pou Nou | Zona amb sals d'alumini. Materials no inerts i inerts | | | **MP (Sb, As, Ba, Co, Hg, Sn (i)), TPH (i), BTEX, cresols, Clorur Vinil, PAH (naftalè), triclorobenzè, di/triclorofenols** | Associat a cubeta S de vas d'abocador | **ND** | **ND** | - | | |
| | Pou Vell | Zona amb sals d'alumini. Materials no inerts i inerts | | | **MP (As, Ba, Cr, Hg, Va (i)), TPH (i), BTEX, cresols, Clorur Vinil, PAH (naftalè), triclorobenzè** | Associat a cubeta S de vas d'abocador | **ND** | **ND** | - | | |
| **8** | S13 | Límits de l'abocador Materials inerts | **1 m: ND 2 m: TPH, cis+trans dicloroetilè, Clorur vinil** | Afecció superficial i generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador al límit d'abocador i cubeta (no s'abasta el nivell freàtic en la massa de reompliment) | **ND** | **ND** | - | ÚS: Parc de la Ciència, Parcs interiors, Serveis tècnics<br><br>El sector 8 es troba sobre reompliment de terres, materials inerts i no inerts, rebliments de sals d'alumini i terreny natural<br>Afecció generalitzada al llarg de tot l'estrat de reompliment caracteritzat, associat fonamentalment a materials inerts/no inerts i sals d'alumini. En els límits de l'abocador, i de forma localitzada, es dóna afecció limitada a material superficial o poc rellevant sobre materials inerts.<br>No es detecta afecció significativa en terreny natural<br><br>Es troba distribuït sobre la cubeta S del vas d'abocador abastant en límit W nivells associats a terreny natural<br>Afecció en nivells d'aigua subterrània associats a nivells de la cubeta S de l'abocador per MP, hidrocarburs del petroli (TPH, BTEX) i VOCL en concentracions superiors al nivell d'intervenció per a TPH.<br>Afecció limitada i puntual en el nivell aqüífer associat al terreny natural per As en concentracions superiors al nivell d'intervenció. S'estima que es déu a una transferencia limitada de contaminants al límit entre materials de reompliment i naturals sense que es doni una connexió hidràulica rellevant<br><br>Afecció rellevant generalitzada per gasos d'abocador i altres compostos volàtils al llarg de tot l'estrat de reompliment caracteritzat fonamentalment en materials inerts/ no inerts. Associada a l'afecció detectada en sòl i aigua subterrània.<br>No es detecta afecció rellevant en els límits d'abocador (materials inerts) i terreny natural | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els d'alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat. Limitat a les zones afectades al límit del sector<br><br>Risc potencial per inhalació de vapors associats a sòl (TPH, PAH, VOCl), aigua subterrània del reompliment de la cubeta S per inhalació de compostos volàtils (TPH, BTEX, VOCl) i altres compostos volàtils detectats (formaldehid). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors<br><br>Es descarta el risc associat a l'afecció detectada a l'aigua subterrània del terreny natural al no donar-se compostos volàtils. Excepte en cas d'aprofitaments<br><br>Risc potencial per presència de gasos d'abocador i explosivitat (especialment sensible en espais tancats o estructures amb potencial d'acumulació de gasos). Limitat a la zona de rebliments inerts/no inerts |
| | S15 | Materials no inerts i inerts | **4 m: MP(Pb, Zn), PAH (Benzo a pirè, indè 123cd pirè), TPH 9 m:, MP(Cu, Zn), PAH (BAP), TPH, FTALATS+** | Afecció generalitzada al llarg de tota la columna caracteritzada | **MP, TPH, BTEX (benzè), cis 1.2-dicloroetilè, di/triclorofenols** | Associat a cubeta S de vas d'abocador al límit d'abocador. | **$NH_3$** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S18 | Zona amb sals d'alumini. Materials no inerts i inerts | **16 m: MP(ZN), PAH (Benzo a pirè, indè 123cd pirè), TPH, PCB 19 m: MP(Se, Zn)** | Afecció en profunditat i generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **$NH_3$,** | **BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SG9 | Zona amb sals d'alumini. Materials no inerts i inerts | | | | Associat a cubeta S de vas d'abocador | **ND** | **TPH vol** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SG10 | Materials no inerts i inerts | | | | Associat a cubeta S de vas d'abocador | **CO** | **TPH vol, BTEX, PCE, TCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP18 | Materials no inerts i inerts | | No es detecten indicis d'afecció en terreny natural | **MP, TPH (i), BTEX, cresols, di/triclorofenols** | Associat a cubeta S de vas d'abocador | **CO, Formaldehid** | **TCE, CV, formaldehid** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | S19 | Materials no inerts i inerts | **8 m: MP(Pb), TPH, Pentaclorofenol, PCB**<br>**10 m: TPH** | Afecció en profunditat generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **ND** | **ND** | - | | |
| | S24 | Límits de l'abocador<br>Materials no inerts i inerts | **ND** | No es detecta afecció rellevant | **MP (As (I))** | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| **9** | SG8 | Zona amb sals d'alumini. Materials no inerts i inerts | | | | Associat a cubeta S de vas d'abocador | **CO, $NH_3$,** | **BTEX (Toluè), NH3** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | ÚS: Parcs interiors, Equipament<br><br>El sector 9 es troba sobre materials inerts i no inerts i terreny natural<br>Afecció generalitzada al llarg de tot l'estrat de reompliment caracteritzat, associat fonamentalment a materials inerts/no inerts, sals d'alumini i estrats no inerts.<br>En terreny natural no s'aprecien indicis d'afecció<br><br>Es troba distribuït sobre la cubeta S del vas d'abocador i terreny natural<br>S'aprecia una connexió hidràulica limitada i una reduïda dispersió de l'afecció entre la cubeta S d'abocador i el terreny natural amb migració limitada de l'afecció fora dels límits de l'abocador amb afecció a la totalitat del sector<br>Afecció en nivells d'aigua subterrània associats a nivells de la cubeta S de l'abocador per MP, hidrocarburs del petroli (TPH, BTEX) i VOCL (en concentracions superiors al nivell d'intervenció per a TPH)<br>Afecció limitada i localitzada en aqüífer de terreny natural per MP i VOCl<br><br>Afecció rellevant generalitzada per gasos d'abocador i altres compostos volàtils al llarg de tot l'estrat de reompliment caracteritzat fonamentalment en materials inerts/ no inerts i en rebliments inerts. Associada a l'afecció detectada en sòl i aigua subterrània de vas d'abocador.<br>No es detecta afecció rellevant en els límits del sector (terreny natural). | Risc potencial associat a la presència de material superficial afectat en cas d'usos que impliquen un contacte directe amb el sòl, especialment els d'alta sensibilitat (parcs, zones d'esbarjo, etc) per contacte directe amb sòl afectat. Limitat a les zones afectades al límit del sector<br><br>Risc potencial per inhalació de vapors associats a sòl (TPH, PAH, VOCl), aigua subterrània del reompliment de la cubeta S i del terreny natural per inhalació de compostos volàtils (TPH, BTEX, VOCl). Es considera especialment sensible el risc per inhalació associat a espais residencials interiors<br><br>Risc potencial per presència de gasos d'abocador i explosivitat (especialment sensible en espais tancats o estructures amb potencial d'acumulació de gasos). Limitat a la zona de rebliments |
| | S17 | Materials inerts | **7 m: MP, PAH (Benzo a pirè, indè 123cd pirè), TPH , Pentaclorofenol, PCB**<br>**13 m: MP (Ni, Se), TPH** | Afecció en profunditat generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador al límit d'abocador | **ND** | **BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SG7 | Materials inerts | | | | Associat a cubeta S de vas d'abocador | **ND** | **TPH vol, BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S20 | Materials no inerts i inerts | **16 m: MP(Pb, Zn), TPH, cis+trans dicloroetilè**<br>**19 m: MP, PAH (Benzo a pirè), TPH, PCB** | Afecció en profunditat generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **$CH_4$ (LEL), $NH_3$,** | **BTEX** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | S23 | Materials inerts | **3 m: MP**<br>**7 m: MP, PAH (Benzo a pirè, indè 123 cd pirè, fluorantè, benzo b fluorantè)** | Afecció generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador | **ND** | **ND** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP19 | Materials no inerts i inerts | **4 m: MP TPH, Pentaclorofenol** | Afecció localitzada en profunditat | **MP, TPH (i), BTEX (benzè, xilens), PCE, clorur vinil, triclorofenols** | Associat a cubeta S de vas d'abocador | **$CH_4$ (LEL), H2S, $NH_3$** | **PCE, TCE, CV** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |

| Sector | Punts de mostreig (PDM) associats | Tipologia de residus | SÒL | | AIGUA SUBTERRÀNIA | | GASOS | | | DIAGNÒSTIC | RISCOS POTENCIALS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Compostos (superen nivell de referència) | Distribució | Compostos (superen nivell de referència) | Distribució | Efecte agut (superen nivell de referència) | Efecte crònic (superen nivell de referència) | Distribució | | |
| | S22 | Materials no inerts i inerts | **5 m: MP, PAH (Benzo a pirè), TPH, PCB**<br>**7 m:, MP (Pb, Zn), TPH, PCB** | Afecció generalitzada al llarg de tota la columna caracteritzada | | Associat a cubeta S de vas d'abocador al límit d'abocador | **$CH_4$ (LEL), CO, $NH_3$** | **BTEX, NH3** | Afecció generalitzada al llarg de la columna d'estrat caracteritzada | | |
| | SP7 | Terreny natural | | No es detecten indicis d'afecció en terreny natural | **MP (Pb)** | Associat a nivell aqüífer del terreny natural<br>Es detecta afecció a aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem SE de la conca S | **ND** | **ND** | - | | |
| | SP8 | Terreny natural | | No es detecten indicis d'afecció en terreny natural | **MP (Pb), PCE** | Associat a nivell aqüífer del terreny natural<br>Es detecta afecció en aquests nivells relacionada amb els rebliments d'abocador localitzats a l'extrem SE de la conca S | **ND** | **ND** | - | | |
| | SP6 | Terreny natural | | | **MP (Pb), PCE** | Associat a nivell aqüífer del terreny natural al límit de l'abocador | **ND** | **ND** | | | |

# Annex 2

# Concentracions de partida

## S1 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) |
|---|---|---|---|---|---|---|
| | | NGRs | | | | S-2 |
| | | industr. | urbano | otros | eco | MS-202 |
| | | | | | | 1,00-1,10 |
| **Características** | | | | | | |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | 1,4 |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 29,8 |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | |
| | | | | | | |
| **Elementos** | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 18 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 180 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 1 |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 24 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 9 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 28 |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 19 |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 23 |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 42 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 77 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | 0,1 |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | 5 |

## S1 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra |
|---|---|---|---|---|
| | | DUTCHLIST | | SP-1 |
| | | REF. | INT. | MA-01 |
| **Características** | | | | |
| pH | | | | 7,2 |
| Temperatura de medición pH | °C | | | 19,5 |
| Temperatura de medición (EC) | °C | | | 19,5 |
| Conductividad eléctrica | mS/m | | | 160 |
| Factor de corr. EC-temp. (matemático) | | | | 1,129 |
| | | | | |
| **Elementos** | | | | |
| Bario (Ba) | µg/L | 200 | 625 | 83 |
| Cobre (Cu) | µg/L | 1,3 | 75 | 7 |
| Cobalto (Co) | µg/L | 0,7 | 100 | 1 |
| Plomo (Pb) | µg/L | 1,7 | 75 | 6 |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | 3 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 5 |
| Vanadio (V) | µg/L | 1,2 | 70 | 3 |
| Zinc (Zn) | µg/L | 24 | 800 | 17 |
| Aluminio (Al) | mg/L | | | 0,1 |
| Calcio (Ca) | mg/L | | | 110 |
| Potasio (K) | mg/L | | | 1,8 |
| Magnesio (Mg) | mg/L | | | 73 |
| Manganeso (Mn) | mg/L | | | 0,38 |
| Sodio (Na) | mg/L | | | 150 |
| | | | | |
| **Compuestos Inorgánicos** | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 9,2 |
| Amonio como NH4-N | mg N/L | | | 0,21 |
| Amonio (NH4) | mg/L | | | 0,27 |
| Cloruro | mg/L | 100 | | 190 |
| Nitrato equivalente NO3-N | mg N/L | | | 0,42 |
| Nitrato (NO3) | mg/L | | | 1,9 |
| Nitrito como NO2-N | mg N/L | | | 0,011 |
| Nitrito (NO2) | mg/L | | | 0,036 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 160 |
| Sulfato como (SO4-S) | mg S/L | | | 52 |

## S2 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | |
|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-1 | S-2 |
| | | industr. | urbano | otros | eco | MR-101 | MS-202 |
| | | | | | | 0,80-1,00 | 1,00-1,10 |
| **Características** | | | | | | | |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | 1,1 | 1,4 |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 34,5 | 29,8 |
| | | | | | | | |
| **Elementos** | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 17 | 18 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 220 | 180 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 1 | 1 |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 26 | 24 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 8 | 9 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 25 | 28 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | | |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 20 | 19 |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 21 | 23 |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 40 | 42 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 66 | 77 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | 0,1 | 0,1 |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | 5 | 5 |
| | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | 0,01 | <0,010 |
| | | | | | | | |
| **Hidrocarburos clorados polares** | | | | | | | |
| Acetona | mg/kg ms | 100 | 10 | 1 | | <5,00 | <5,00 |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,01 | <0,01 |

## S2 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra |
|---|---|---|---|---|
| | | DUTCHLIST | | SP-9 |
| **Características** | | REF. | INT. | MA-09 |
| pH | | | | 7,2 |
| Temperatura de medición pH | °C | | | 19,7 |
| Temperatura de medición (EC) | °C | | | 19,7 |
| Conductividad eléctrica | mS/m | | | 1100 |
| Factor de corr. EC-temp. (matemático) | | | | 1,124 |
| | | | | |
| **Elementos** | | | | |
| Bario (Ba) | µg/L | 200 | 625 | 1000 |
| Cromo (Cr) | µg/L | 2,5 | 30 | 120 |
| Cobre (Cu) | µg/L | 1,3 | 75 | 45 |
| Cobalto (Co) | µg/L | 0,7 | 100 | 15 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | 0,22 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 75 |
| Estaño (Sn) | µg/L | 2,2 | 50 | 78 |
| Vanadio (V) | µg/L | 1,2 | 70 | 81 |
| Zinc (Zn) | µg/L | 24 | 800 | 57 |
| Aluminio (Al) | mg/L | | | <0,10 |
| Calcio (Ca) | mg/L | | | 78 |
| Potasio (K) | mg/L | | | 150 |
| Magnesio (Mg) | mg/L | | | 140 |
| Manganeso (Mn) | mg/L | | | 0,073 |
| Sodio (Na) | mg/L | | | 670 |
| | | | | |
| **Hidrocarburos Monoaromáticos** | | | | |
| Benceno | µg/L | 0,2 | 30 | 12 |
| Etilbenceno | µg/L | 4 | 150 | 240 |
| Tolueno | µg/L | 7 | 1000 | 120 |
| o-Xileno | µg/L | | | 82 |
| m,p-Xileno | µg/L | | | 570 |
| Xilenos (sum) | µg/L | 0,2 | 70 | 650 |
| 1,2,4-Trimetilbenceno | µg/L | | | 130 |
| Isopropilbenceno | µg/L | | | 5,6 |
| | | | | |
| **Fenoles** | | | | |
| p-Cresol | µg/L | | | 30 |
| Cresoles (suma) | µg/L | 0,2 | 200 | 30 |
| 2,4-Dimetilfenol | µg/L | | | 120 |
| 2,5-Dimetilfenol | µg/L | | | 28 |
| 2,6-Dimetilfenol | µg/L | | | 10 |
| 3,4-Dimetilfenol | µg/L | | | 58 |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | µg/L | | | 280 |
| | | | | |
| **Hidrocarburos clorados Volátiles** | | | | |
| Tricloroetileno | µg/L | 24 | 500 | 0,14 |
| Cloruro de vinilo | µg/L | 0,01 | 5 | 2,2 |
| trans 1,2-Dichloroetileno | µg/L | | | 0,25 |
| cis 1,2-Dicloroetileno | µg/L | | | 0,69 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | 5 |
| | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | |
| Fluoreno | µg/L | | | 0,42 |
| HAP 16 EPA (suma) | µg/L | | | 0,4 |
| | | | | |
| **Clorobencenos** | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | 280 |
| 1,2-Diclorobenceno | µg/L | | | 0,7 |
| 1,3-Diclorobenceno | µg/L | | | 1,2 |
| 1,4-Diclorobenceno | µg/L | | | 210 |
| Diclorobencenos (suma) | µg/L | 3 | 50 | 210 |
| 1,2,4-Triclorobenceno | µg/L | | | 0,65 |
| Triclorobencenos (suma) | µg/L | 0,01 | 10 | 0,96 |
| | | | | |
| **Clorofenoles** | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | 2,2 |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | 2,2 |
| | | | | |
| **Varios compuestos orgánicos** | | | | |
| | | | | |
| **TPH** | | | | |
| TPH C10-C16 | µg/L | | | 1600 |
| TPH C16-C22 | µg/L | | | 1400 |
| TPH C22-C30 | µg/L | | | 8300 |
| TPH C30-C40 | µg/L | | | 26000 |
| TPH (suma C10-C40) | µg/L | 50 | 600 | 37000 |
| | | | | |
| **Cloroanilinas** | | | | |
| 2,3-Dicloroanilina | µg/L | | | <2,0 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <10 |
| 2,6-Dicloroanilina | µg/L | | | <1,0 |
| 3,5-Dicloroanilina | µg/L | | | <20 |
| | | | | |
| **Compuestos Inorgánicos** | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 76 |
| Amonio como NH4-N | mg N/L | | | 440 |
| Amonio (NH4) | mg/L | | | 570 |
| Cloruro | mg/L | 100 | | 1640 |
| Nitrato equivalente NO3-N | mg N/L | | | <0,20 |
| Nitrato (NO3) | mg/L | | | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,17 |
| Nitrito (NO2) | mg/L | | | 0,55 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 26 |
| Sulfato como (SO4-S) | mg S/L | | | 8,6 |

## S3 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | |
|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-26 | PZ-3 |
| **Características** | | REF. | INT. | MA-26 | MA-PZ-3 |
| pH | | | | 7,4 | 6,7 |
| Temperatura de medición pH | °C | | | 19,4 | 19,6 |
| Temperatura de medición (EC) | °C | | | 19,4 | 19,6 |
| Conductividad eléctrica | mS/m | | | 450 | 730 |
| Factor de corr. EC-temp. (matemático) | | | | 1,131 | 1,126 |
| | | | | | |
| **Elementos** | | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | | |
| Arsénico (As) | µg/L | 7,2 | 60 | 12 | 10 |
| Bario (Ba) | µg/L | 200 | 625 | 250 | 48 |
| Berilio (Be) | µg/L | 0,05 | 15 | 1 | |
| Cadmio (Cd) | µg/L | 0,06 | 6 | 0,8 | |
| Cromo (Cr) | µg/L | 2,5 | 30 | 4 | 9 |
| Cobre (Cu) | µg/L | 1,3 | 75 | 18 | 6 |
| Cobalto (Co) | µg/L | 0,7 | 100 | 5 | 30 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | | 0,1 |
| Plomo (Pb) | µg/L | 1,7 | 75 | 46 | 4 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 12 | 110 |
| Selenio (Se) | µg/L | 0,07 | 160 | 5 | 10 |
| Estaño (Sn) | µg/L | 2,2 | 50 | | 12 |
| Vanadio (V) | µg/L | 1,2 | 70 | 24 | 14 |
| Zinc (Zn) | µg/L | 24 | 800 | 79 | 15 |
| Aluminio (Al) | mg/L | | | 0,11 | 0,58 |
| Calcio (Ca) | mg/L | | | 280 | 560 |
| Potasio (K) | mg/L | | | 19 | 30 |
| Magnesio (Mg) | mg/L | | | 130 | 140 |
| Manganeso (Mn) | mg/L | | | 0,64 | 7,9 |
| Sodio (Na) | mg/L | | | 570 | 820 |
| | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | |
| Benceno | µg/L | 0,2 | 30 | | 1,6 |
| Etilbenceno | µg/L | 4 | 150 | | 0,1 |
| Tolueno | µg/L | 7 | 1000 | | 0,3 |
| m,p-Xileno | µg/L | | | | 0,3 |
| Xilenos (sum) | µg/L | 0,2 | 70 | | 0,3 |
| Isopropilbenceno | µg/L | | | | 2,1 |
| | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | |
| Tetracloroetileno | µg/L | 0,01 | 40 | 0,21 | 0,16 |
| Tribromometano | µg/L | | 630 | 23 | |
| Dibromoclorometano | µg/L | | | 2 | |
| Cloruro de vinilo | µg/L | 0,01 | 5 | | 0,53 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | | 0,79 |
| Dibromometano | µg/L | | | 1,6 | |
| Bromometano | µg/L | | | | 0,32 |
| | | | | | |
| **Clorobencenos** | | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | | 4,3 |
| 1,2-Diclorobenceno | µg/L | | | | 0,4 |
| 1,3-Diclorobenceno | µg/L | | | | 0,4 |
| 1,4-Diclorobenceno | µg/L | | | | 1,9 |
| Diclorobencenos (suma) | µg/L | 3 | 50 | | 2,6 |
| 1,2,4-Triclorobenceno | µg/L | | | | 0,44 |
| Triclorobencenos (suma) | µg/L | 0,01 | 10 | | 0,44 |
| | | | | | |
| **Clorofenoles** | | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | | 2,9 |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | | 2,9 |
| | | | | | |
| **TPH** | | | | | |
| TPH C10-C16 | µg/L | | | | 550 |
| TPH C16-C22 | µg/L | | | | 360 |
| TPH C22-C30 | µg/L | | | | 480 |
| TPH C30-C40 | µg/L | | | | 40 |
| TPH (suma C10-C40) | µg/L | 50 | 600 | | 3000 |
| | | | | | |
| **Compuestos Inorgánicos** | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 4,8 | 6,6 |
| Amonio como NH4-N | mg N/L | | | 0,18 | 27 |
| Amonio (NH4) | mg/L | | | 0,24 | 34 |
| Cloruro | mg/L | 100 | | 1340 | 1830 |
| Nitrato equivalente NO3-N | mg N/L | | | 1,8 | <0,20 |
| Nitrato (NO3) | mg/L | | | 8 | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,036 | <0,010 |
| Nitrito (NO2) | mg/L | | | 0,12 | <0,030 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 180 | 1000 |
| Sulfato como (SO4-S) | mg S/L | | | 61 | 340 |

## S4 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-3 | | | S-4 | S-5 | | | S-7 | | S-9 | SP-9 |
| | | industr. | urbano | otros | eco | MR-301 | MR-303 | MS-301 | MR-401 | MR-502-2 | MR-503-2 | MS-501 | MR-701 | MR-702 | MR-902 | MR-901-SP |
| | | | | | | 3,40-3,60 | 10,80-11,00 | 17,30-17,50 | 3,60-3,70 | 12,40-12,50 | 14,80-14,90 | 22,40-22,50 | 1,25-1,35 | 17,60-17,90 | 8,40-8,50 | 12,75-12,85 |
| **Características** | | | | | | 4,1 | 9,2 | 1 | | 9,1 | 2,9 | | 1,2 | 2 | 3,5 | |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | 26,1 | 6,5 | 30,6 | | 17,7 | 20 | 36,1 | 33,7 | 20,1 | 26,3 | 12,6 |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | | | | 3,5 | | | 51 | | | | 5 |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Elementos** | | | | | | 15 | 16 | 12 | 15 | 27 | 11 | 17 | 16 | 14 | 15 | 11 |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | | 28 | | | 22 | | | | 4 | | |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | 160 | 700 | 190 | 100 | 1500 | 350 | 160 | 63 | 140 | 190 | 210 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | | | | | | | 1 | 1 | | 1 | |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 0,4 | 0,8 | | | | | | | | | |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | 27 | 68 | 17 | 18 | 890 | 21 | 24 | 22 | 19 | 27 | 24 |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 8 | 7 | 7 | 8 | 37 | 8 | 11 | 12 | 8 | 13 | 7 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 85 | 370 | 22 | 32 | 370 | 24 | 33 | 34 | 150 | 58 | 62 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 0,13 | 0,1 | | | 0,08 | | | | | 0,08 | 0,13 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | 39 | 3700 | 24 | 19 | 96 | 22 | 23 | 34 | 36 | 97 | 82 |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 1,1 | 7,9 | | 1 | 170 | 1,2 | 1,2 | 1,9 | | 2,1 | |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 22 | 43 | 15 | 19 | 1200 | 16 | 25 | 22 | 20 | 28 | 19 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | 21 | | | 16 | | | | | | |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | 39 | 23 | 32 | 28 | 37 | 39 | 35 | 44 | 27 | 37 | 31 |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 91 | 420 | 54 | 69 | 540 | 75 | 99 | 100 | 66 | 130 | 130 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | <0,10 | <0,10 | 0,66 | | <0,10 | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | 13 | | | 2,9 | 17 | | | | 0,7 | 1,6 |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | | 5,2 | | | 3,1 | 46 | | | | 1,3 | 3,3 |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | | | | | 1,1 | 3,7 | | | | | 0,3 |
| o-Xileno | mg/kg ms | | | | | | 8,8 | | | 9,4 | 60 | | | | 1,3 | 3,7 |
| m,p-Xileno | mg/kg ms | | | | | | 8,8 | | | 11 | 64 | | | | 1,3 | 4 |
| Estireno | mg/kg ms | 100 | 100 | 20 | | | 6,1 | | | 6,1 | 19 | | | | 0,64 | 0,99 |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | | 1,5 | | | 1,6 | 7,7 | | | | 0,2 | 0,28 |
| 1,3,5-Trimetilbenceno | mg/kg ms | | | | | | 1,1 | | | 0,5 | 3,2 | | | | 0,07 | 0,2 |
| n-Propilbenceno | mg/kg ms | | | | | | 1,5 | | | 0,82 | | | | | | 0,07 |
| Isopropilbenceno | mg/kg ms | | | | | | 1,1 | | | 1,1 | | | | | | 0,09 |
| n-Butilbenceno | mg/kg ms | | | | | | | | | 0,2 | | | | | | 0,05 |
| sec-Butilbenceno | mg/kg ms | | | | | | | | | | 2,7 | | | | | |
| tert-Butibeceno | mg/kg ms | | | | | 18 | 0,55 | | | 3,1 | | | | | 0,65 | 0,08 |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,01 | <0,01 | | | <0,010 | <0,010 | | | | | |
| | | | | | | | | | | | | | | | | |
| **Fenoles** | | | | | | | 0,45 | | | 0,49 | 1,5 | | | | 6,3 | 0,06 |
| Fenol | mg/kg ms | 100 | 70 | 7 | | | | | 0,02 | 0,04 | | | | 0,02 | 0,03 | |
| o-Cresol | mg/kg ms | | | | | | | | | 0,22 | | | | | 0,12 | |
| m-Cresol | mg/kg ms | | | | | | 0,22 | | | 3,2 | 16 | | | | 2,3 | |
| p-Cresol | mg/kg ms | | | | | | 0,22 | | 0,02 | 3,5 | 16 | | | 0,02 | 2,5 | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | | 0,1 | | | 0,03 | | | | | | |
| o-Etilfenol | mg/kg ms | | | | | | | | | 0,1 | | | | | 0,01 | |
| m-Etilfenol | mg/kg ms | | | | | | 0,36 | | | 0,17 | | | | | 0,02 | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | mg/kg ms | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | <0,05 | 0,12 | | | <0,05 | <0,05 | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | 0,069 | 1,2 | | | 1,6 | 4,3 | | | | 1,3 | 3,3 |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | 0,1 | 3,5 | | | 0,94 | 1,5 | | | | 0,7 | 1,6 |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | <0,05 | 0,40 | | | 0,34 | 0,33 | | | | | 0,3 |
| o-Xileno | mg/kg ms | | | | | <0,05 | 2,30 | | | 2,6 | 5 | | | | 1,3 | 3,7 |
| m,p-Xileno | mg/kg ms | | | | | -- | 2,7 | | | 2,9 | 5,4 | | | | 1,3 | 4 |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | 0,17 | 7,50 | | | 5,5 | 11 | | | | | |
| BTEX (suma) | mg/kg ms | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | 1,8 | | | 1,7 | 0,35 | | | | 0,23 | 0,16 |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | | | | | 0,03 | | | | | | |
| Acenaftileno | mg/kg ms | | | | | | 0,15 | | | 0,82 | | | | | | 0,02 |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | 0,56 | 0,21 | | | 1,6 | | | | | 0,02 | 0,05 |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | 0,78 | 0,73 | | | 6,7 | 0,48 | | | | 0,08 | 0,18 |
| Fenantreno | mg/kg ms | | | | | | 0,15 | | | 1,1 | | | | | | 0,02 |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | 0,38 | | | 2,4 | 0,38 | | | | 0,02 | 0,1 |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | 0,29 | 0,64 | | | 1,5 | 0,4 | | | | 0,11 | 0,11 |
| Pireno | mg/kg ms | 100 | 60 | 6 | | | | | | 0,33 | 0,28 | | | | | 0,05 |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | | | | | 0,52 | 0,62 | | | | | 0,08 |
| Criseno | mg/kg ms | 100 | 100 | 20 | | | | | | 0,11 | 0,25 | | | | | 0,05 |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | | | | | 0,02 | 0,11 | | | | | 0,02 |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | | | | | 0,05 | | | | | | 0,03 |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | | 0,1 | | | | | | | | | 0,04 |
| Benzo(ghi)perileno | mg/kg ms | | | | | | | | | | | | | | | 0,01 |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | 0,78 | 3,1 | | | 13 | 2,2 | | | | 0,33 | 0,67 |
| HAP 10 VROM (suma) | mg/kg ms | | | | | 1,6 | 4,1 | | | 17 | 2,9 | | | | 0,45 | 0,91 |
| | | | | | | | | | | | | | | | | |
| **TPH** | | | | | | 1900 | 320 | | | 200 | 200 | | | | 27 | 25 |
| TPH C10-C16 | mg/kg ms | | | | | 2500 | 370 | | | 1900 | 340 | | | | 71 | 71 |
| TPH C16-C22 | mg/kg ms | | | | | 3200 | 1100 | | | 2800 | 2200 | 28 | | | 340 | 390 |
| TPH C22-C30 | mg/kg ms | | | | | 530 | 1000 | | | 810 | 2700 | 31 | | | 930 | 870 |
| TPH C30-C40 | mg/kg ms | | | | | 8200 | 2800 | | | 5700 | 5400 | 67 | | | 1400 | 1400 |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | | | | | |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,016 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | 0,046 | 0,023 | <0,005 | <0,005 | 0,0077 | 0,01 | <0,005 | <0,005 | <0,005 | <0,050 | 0,015 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,013 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,15 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0,15 | -- |
| Tricloroeteno | mg/kg ms | | | | | 32 | | | | | | | | | | |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | 0,046 | 0,023 | -- | -- | 0,0077 | 0,010 | -- | -- | -- | 0,230 | <0,015 |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | 0,01 | <0,010 |
| | | | | | | | | | | | | | | | | |
| **Hidrocarburos clorados polares** | | | | | | | | | | | | | | | | |
| Acetona | mg/kg ms | 100 | 10 | 1 | | <5,0 | <5,0 | <5,0 | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | | | | | | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | | | <0,130 | | | | | |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | 0,02 | | | | | | |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | | | | | 0,28 | 0,22 | | | | 5,6 | 0,02 |
| Diclorobencenos (suma) | mg/kg ms | | | | | | | | | 0,3 | 0,35 | | | | 5,6 | 0,02 |
| 1,2,3-Triclorobenceno | mg/kg ms | | | | | | | | | 0,07 | 2,9 | | | | 0,03 | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | | | | | 0,24 | 9 | | | | 0,06 | 0,03 |
| 1,3,5-Triclorobenceno | mg/kg ms | | | | | | | | | 0,07 | | | | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | | | | | 0,38 | 12 | | | | 0,1 | 0,03 |
| 1,2,3,4-Tetraclorobenceno | mg/kg ms | | | | | | | | | | 0,22 | | | | | |
| 1245&1235 Tetraclorobenceno | mg/kg ms | | | | | | | | | | 0,27 | | | | | |
| Tetraclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,49 | | | | | |
| | | | | | | | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | | | | | | | |
| o-Clorofenol | mg/kg ms | | | | | | | | | 0,04 | | | | | | |
| m-Clorofenol | mg/kg ms | | | | | | | | | 0,04 | | | | | | |
| p-Clorofenol | mg/kg ms | | | | | | | | | 0,13 | | | | | | |
| Monoclorofenoles (suma) | mg/kg ms | 100 | 10 | 1 | | | | | | 0,21 | | | | | | |
| 2,4/2,5-Diclorofenol | mg/kg ms | 10 | 1 | 0,1 | | | | | | <0,052 | | | | | <0,008 | |
| 3,4-Diclorofenol | mg/kg ms | | | | | | | | | 0,053 | | | | | | |
| 3,5-Diclorofenol | mg/kg ms | | | | | | | | | 0,12 | | | | | | |
| Diclorofenoles (suma) | mg/kg ms | | | | | | | | | 0,23 | | | | | 0,008 | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | | | | | 0,02 | | | | | 0,002 | 0,003 |
| 2,4,6-Triclorofenol | mg/kg ms | 90 | 9 | 0,9 | | | | | | 0,024 | | | | | | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | | | | 0,1 | | | | | | 0,003 |
| Triclorofenoles (suma) | mg/kg ms | | | | | | | | | 0,14 | | | | | 0,002 | 0,005 |
| Tetraclorofenoles (suma) | mg/kg ms | | | | | | | | | 3,4 | | | | | | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | | | | | 23 | 0,11 | | | | 0,064 | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | | | | | 13 | 0,056 | | | | 0,015 | 0,008 |
| | | | | | | | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,01 | <0,01 | <0,01 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| Dicloroanilinas (suma) | mg/kg ms | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | | | | | |
| **Bifenilos Policlorados** | | | | | | | | | | | | | | | | |
| PCB 28 | mg/kg ms | | | | | | 0,021 | | | | | | | | | |
| PCB 118 | mg/kg ms | | | | | | 0,042 | | | | | | | | | |
| PCB 180 | mg/kg ms | | | | | | | | | | | | | | | 0,016 |
| PCB (6) (suma) | mg/kg ms | | | | | | 0,021 | | | | | | | | | 0,016 |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | | 0,062 | | | | | | | | | 0,016 |
| | | | | | | | | | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | | | | | | | | | | <0,050 | <0,008 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | | | | | | | | | | 0,087 | 0,005 |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | | | | | 0,01 | | | | | 0,21 | 0,013 |
| | | | | | | | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | 0,17 | 0,23 | | | 0,49 | 0,2 | | | | 0,055 | 0,016 |
| Dibenzofurano | mg/kg ms | | | | | | | | | 0,56 | | | | | | |
| | | | | | | | | | | | | | | | | |
| **Ftalatos** | | | | | | | | | | | | | | | | |
| Dietilftalato | mg/kg ms | | | | | | | | | | | | | | 0,3 | |
| Di-isobutilftalato | mg/kg ms | | | | | | | | | 3 | | | | | 0,8 | |
| Dibutilftalato | mg/kg ms | | | | | | | | | 65 | | | | | 2,3 | |
| Butilbencilftalato | mg/kg ms | | | | | | 7,4 | | | | | | | | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | 360 | | | 82 | | | | | | 11 |
| Ftalatos (suma) | mg/kg ms | | | | | | 360 | | | 150 | | | | | 3,3 | 11 |

# S4 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | |
|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-9 | SP-11 |
| **Características** | | REF. | INT. | MA-09 | MA-11 |
| pH | | | | 7,2 | 7,4 |
| Temperatura de medición pH | °C | | | 19,7 | 19,5 |
| Temperatura de medición (EC) | °C | | | 19,7 | 19,5 |
| Conductividad eléctrica | mS/m | | | 1100 | 350 |
| Factor de corr. EC-temp. (matemático) | | | | 1,124 | 1,129 |
| | | | | | |
| **Elementos** | | | | | |
| Bario (Ba) | µg/L | 200 | 625 | 1000 | 38 |
| Cromo (Cr) | µg/L | 2,5 | 30 | 120 | |
| Cobre (Cu) | µg/L | 1,3 | 75 | 45 | 6 |
| Cobalto (Co) | µg/L | 0,7 | 100 | 15 | 4 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | 0,22 | |
| Plomo (Pb) | µg/L | 1,7 | 75 | | 16 |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | | 9 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 75 | 9 |
| Estaño (Sn) | µg/L | 2,2 | 50 | 78 | |
| Vanadio (V) | µg/L | 1,2 | 70 | 81 | 16 |
| Zinc (Zn) | µg/L | 24 | 800 | 57 | 34 |
| Aluminio (Al) | mg/L | | | <0,10 | 0,32 |
| Calcio (Ca) | mg/L | | | 78 | 520 |
| Potasio (K) | mg/L | | | 150 | 16 |
| Magnesio (Mg) | mg/L | | | 140 | 160 |
| Manganeso (Mn) | mg/L | | | 0,073 | 1,7 |
| Sodio (Na) | mg/L | | | 670 | 160 |
| | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | |
| Etilbenceno | µg/L | 4 | 150 | 240 | 0,1 |
| Tolueno | µg/L | 7 | 1000 | 120 | 0,3 |
| m,p-Xileno | µg/L | | | 570 | 0,1 |
| Xilenos (sum) | µg/L | 0,2 | 70 | 650 | 0,1 |
| 1,2,4-Trimetilbenceno | µg/L | | | 130 | |
| Isopropilbenceno | µg/L | | | 5,6 | |
| | | | | | |
| **Fenoles** | | | | | |
| 2,4-Dimetilfenol | µg/L | | | 120 | 0,07 |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | µg/L | | | 280 | 0,05 |
| | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | |
| Tricloroetileno | µg/L | 24 | 500 | 0,14 | |
| Cloruro de vinilo | µg/L | 0,01 | 5 | 2,2 | |
| trans 1,2-Dichloroetileno | µg/L | | | 0,25 | |
| cis 1,2-Dicloroetileno | µg/L | | | 0,69 | |
| 1,1-Dicloroetano | µg/L | 7 | 900 | 5 | |
| | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | |
| Fluoreno | µg/L | | | 0,42 | |
| HAP 16 EPA (suma) | µg/L | | | 0,4 | |
| | | | | | |
| **Clorobencenos** | | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | 280 | |
| 1,2-Diclorobenceno | µg/L | | | 0,7 | |
| 1,3-Diclorobenceno | µg/L | | | 1,2 | |
| 1,4-Diclorobenceno | µg/L | | | 210 | 0,2 |
| Diclorobencenos (suma) | µg/L | 3 | 50 | 210 | 0,2 |
| 1,2,4-Triclorobenceno | µg/L | | | 0,65 | |
| Triclorobencenos (suma) | µg/L | 0,01 | 10 | 0,96 | |
| | | | | | |
| **Clorofenoles** | | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | 2,2 | 0,01 |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | 2,2 | 0,01 |
| | | | | | |
| **Varios compuestos orgánicos** | | | | | |
| Bifenilo | µg/L | | | | 0,03 |
| | | | | | |
| **TPH** | | | | | |
| TPH C10-C16 | µg/L | | | 1600 | |
| TPH C16-C22 | µg/L | | | 1400 | |
| TPH C22-C30 | µg/L | | | 8300 | |
| TPH C30-C40 | µg/L | | | 26000 | |
| TPH (suma C10-C40) | µg/L | 50 | 600 | 37000 | |
| | | | | | |
| **Cloroanilinas** | | | | | |
| 2,3-Dicloroanilina | µg/L | | | <2,0 | <0,02 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <10 | <0,10 |
| 2,6-Dicloroanilina | µg/L | | | <1,0 | <0,01 |
| 3,5-Dicloroanilina | µg/L | | | <20 | <0,2 |
| Dicloroanilinas (suma) | µg/L | | 100 | -- | -- |
| | | | | | |
| **Compuestos Inorgánicos** | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 76 | 4,8 |
| Amonio como NH4-N | mg N/L | | | 440 | 1,8 |
| Amonio (NH4) | mg/L | | | 570 | 2,3 |
| Cloruro | mg/L | 100 | | 1640 | 290 |
| Nitrato equivalente NO3-N | mg N/L | | | <0,20 | <0,20 |
| Nitrato (NO3) | mg/L | | | <0,90 | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,17 | 0,01 |
| Nitrito (NO2) | mg/L | | | 0,55 | 0,033 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 26 | 1600 |
| Sulfato como (SO4-S) | mg S/L | | | 8,6 | 520 |

# S4 SOIL GAS

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra/ Profundidad (m) | | |
|---|---|---|---|---|---|---|
| | | TARGET (EPA) | | SG-1 | | |
| | | DEEP | SHALLOW | SG1-8-II | SG1-8-III | SG1-3,5-I |
| **Hidrocarburos Monoaromáticos** | | | | 8,00 | 8,00 | 3,50 |
| Benceno | µg/l | 0,2 | 0,017 | <0,17 | 1,83 | 5,33 |
| Tolueno | µg/l | 26,0 | 2,6 | <0,17 | 0,38 | 13,17 |
| Etilbenceno | µg/l | 100,0 | 10,0 | <0,17 | 0,35 | 13,00 |
| o-Xileno | µg/l | 70,0 | 7,0 | <0,17 | <0,17 | 0,35 |
| m,p-Xileno | µg/l | 70,0 | 7,0 | <0,17 | <0,17 | 0,72 |
| Xilenos (sum) | µg/l | 10,0 | 1,0 | | - | 1,07 |
| BTEXN (suma) | µg/l | | | | 2,50 | 20,00 |
| TPH volátil C6-C8 | µg/l | 40,0 | 4,0 | | 333,33 | 400,00 |
| TPH volátil C8-C10 | µg/l | 100,0 | 10,0 | | 6,17 | 25,00 |
| TPH volátil C10-C12 | µg/l | 100,0 | 10,0 | | <1,67 | 1,67 |
| TPH volátil C12-C14 | µg/l | | | | <1,67 | 1,67 |
| TPH volátil (suma C6-C14) | µg/l | | | <8,33 | 350,00 | 433,33 |
| Suma aromaticos C6 | µg/l | | | | 1,83 | 5,33 |
| Suma aromaticos C7-C8 | µg/l | | | | 0,7 | 26,7 |
| Suma aromaticos C9-C10 | µg/l | | | | -- | 1,10 |
| | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | |
| 1,1-Dicloroetano | µg/l | 50,0 | 5,0 | <0,83 | 8,5 | 4,17 |
| Tricloroetileno | µg/l | 0,009 | 0,001 | <0,83 | 2 | <0,83 |
| Tetracloroetileno | µg/l | 25,0 | 2,5 | <0,83 | 1,83 | 2,17 |
| cis -1,2-Dicloroetileno | µg/l | 79,0 | 7,9 | <0,83 | 28,33 | 21,67 |
| Cloruro de vinilo | µg/l | 1,0 | 0,1 | <3,33 | 28,33 | 21,67 |
| | | | | | | |
| Alcoholes | µg/l | | | ND | | ND |
| Cetonas | µg/l | | | ND | | ND |
| Esteres | µg/l | | | ND | | ND |

## S5 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) |
|---|---|---|---|---|---|---|
| | | NGRs | | | | SP-12 |
| | | industr. | urbano | otros | eco | MR-1203-SP |
| **Características** | | | | | | 19,40-19,50 |
| ignición | % ms | | | | | 1,5 |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 10,9 |
| | | | | | | |
| **Elementos** | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 9 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 84 |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 22 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 6 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 21 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | 0,48 |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 24 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 1 |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 20 |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 20 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 59 |
| | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | 10 |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | 1,1 |
| o-Xileno | mg/kg ms | | | | | 3,2 |
| m,p-Xileno | mg/kg ms | | | | | 34 |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | 38 |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | 23 |
| 1,3,5-Trimetilbenceno | mg/kg ms | | | | | 62 |
| n-Propilbenceno | mg/kg ms | | | | | 2,7 |
| Isopropilbenceno | mg/kg ms | | | | | 0,69 |
| n-Butilbenceno | mg/kg ms | | | | | 3,4 |
| sec-Butilbenceno | mg/kg ms | | | | | 0,62 |
| p-Isopropiltolueno | mg/kg ms | | | | | 0,65 |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 |
| MTBE | mg/kg ms | | | | | |
| | | | | | | |
| **Fenoles** | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | 0,52 |
| o-Cresol | mg/kg ms | | | | | 0,07 |
| m-Cresol | mg/kg ms | | | | | 0,05 |
| p-Cresol | mg/kg ms | | | | | 0,9 |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | 1 |
| 2,4-Dimetilfenol | mg/kg ms | | | | | 0,26 |
| 2,5-Dimetilfenol | mg/kg ms | | | | | 0,02 |
| 2,6-Dimetilfenol | mg/kg ms | | | | | 0,03 |
| 3,4-Dimetilfenol | mg/kg ms | | | | | 0,01 |
| o-Etilfenol | mg/kg ms | | | | | 0,02 |
| m-Etilfenol | mg/kg ms | | | | | 0,02 |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | mg/kg ms | | | | | 0,03 |
| | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | 1,1 |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | 10 |
| o-Xileno | mg/kg ms | | | | | 3,2 |
| m,p-Xileno | mg/kg ms | | | | | 34 |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | 38 |
| | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | 2,9 |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | 0,02 |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | 0,02 |
| Fenantreno | mg/kg ms | | | | | 0,05 |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | 0,02 |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | 0,03 |
| Pireno | mg/kg ms | 100 | 60 | 6 | | 0,02 |
| HAP 10 VROM (suma) | mg/kg ms | | | | | 3,4 |
| HAP 16 EPA (suma) | mg/kg ms | | | | | 3,5 |
| | | | | | | |
| **TPH** | | | | | | |
| TPH C10-C16 | mg/kg ms | | | | | 130 |
| TPH C16-C22 | mg/kg ms | | | | | 50 |
| TPH C22-C30 | mg/kg ms | | | | | 110 |
| TPH C30-C40 | mg/kg ms | | | | | 150 |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | 440 |
| | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 |
| | | | | | | |
| **Clorobencenos** | | | | | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | 0,01 |
| Triclorobencenos (suma) | mg/kg ms | | | | | 0,01 |
| | | | | | | |
| **Clorofenoles** | | | | | | |
| m-Clorofenol | mg/kg ms | | | | | 0,02 |
| p-Clorofenol | mg/kg ms | | | | | 0,04 |
| Monoclorofenoles (suma) | mg/kg ms | 100 | 10 | 1 | | 0,06 |
| 2,4/2,5-Diclorofenol | mg/kg ms | 10 | 1 | 0,1 | | <0,030 |
| 3,4-Diclorofenol | mg/kg ms | | | | | 0,013 |
| Diclorofenoles (suma) | mg/kg ms | | | | | 0,04 |
| 2,3,5-Triclorofenol | | | | | | 0,008 |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | 0,006 |
| 2,4,6-Triclorofenol | mg/kg ms | 90 | 9 | 0,9 | | 0,002 |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | 0,008 |
| Triclorofenoles (suma) | mg/kg ms | | | | | 0,02 |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | 0,011 |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | 0,039 |
| | | | | | | |
| **Cloroanilinas** | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,010 |
| Dicloroanilinas (suma) | mg/kg ms | | | | | -- |
| | | | | | | |
| **Bifenilos Policlorados** | | | | | | |
| PCB 28 | mg/kg ms | | | | | 0,04 |
| PCB 52 | mg/kg ms | | | | | 0,008 |
| PCB 101 | mg/kg ms | | | | | 0,01 |
| PCB 118 | mg/kg ms | | | | | 0,008 |
| PCB 138 | mg/kg ms | | | | | 0,008 |
| PCB 153 | mg/kg ms | | | | | 0,006 |
| PCB 180 | mg/kg ms | | | | | 0,004 |
| PCB (6) (suma) | mg/kg ms | | | | | 0,074 |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | 0,082 |
| | | | | | | |
| **Otros CHC clorados** | | | | | | |
| 1-Cloronaftaleno | mg/kg ms | | | | | 0,075 |
| | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | <0,004 |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | 0,006 |
| | | | | | | |
| **Otros pesticidas** | | | | | | |
| Bifentrina | mg/kg ms | | | | | 0,021 |
| | | | | | | |
| **Varios compuestos orgánicos** | | | | | | |
| Bifenilo | mg/kg ms | | | | | 0,1 |
| | | | | | | |
| **Ftalatos** | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | 1 |
| Dibutilftalato | mg/kg ms | | | | | 0,5 |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | 8,8 |
| Ftalatos (suma) | mg/kg ms | | | | | 10 |

## S5 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | | | |
|---|---|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-6 | SP-10 | SP-12 | SP-21 |
| **Características** | | REF. | INT. | MA-06 | MA-10 | MA-12 | MA-21 |
| pH | | | | 7,2 | 7,2 | 7,3 | 6,7 |
| Temperatura de medición pH | °C | | | 18,4 | 19,7 | 19,3 | 18,5 |
| Temperatura de medición (EC) | °C | | | 18,4 | 19,7 | 19,3 | 18,5 |
| Conductividad eléctrica | mS/m | | | 450 | 1500 | 1900 | 500 |
| Factor de corr. EC-temp. (matemático) | | | | 1,158 | 1,124 | 1,134 | 1,155 |
| | | | | | | | |
| **Elementos** | | | | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | | | | 340 |
| Arsénico (As) | µg/L | 7,2 | 60 | | | 98 | 58 |
| Bario (Ba) | µg/L | 200 | 625 | 32 | 1700 | 740 | 10 |
| Cromo (Cr) | µg/L | 2,5 | 30 | | 73 | 510 | |
| Cobre (Cu) | µg/L | 1,3 | 75 | 6 | 49 | 54 | |
| Cobalto (Co) | µg/L | 0,7 | 100 | | 24 | 46 | 16 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | | 0,16 | 0,28 | 0,08 |
| Plomo (Pb) | µg/L | 1,7 | 75 | 320 | | | 7 |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | 8 | | | 9 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 7 | 75 | 740 | 170 |
| Selenio (Se) | µg/L | 0,07 | 160 | 27 | | | 7 |
| Estaño (Sn) | µg/L | 2,2 | 50 | | 78 | | |
| Vanadio (V) | µg/L | 1,2 | 70 | 6 | 160 | 270 | 16 |
| Zinc (Zn) | µg/L | 24 | 800 | 130 | 63 | 75 | 18 |
| Aluminio (Al) | mg/L | | | 0,78 | <0,10 | 0,14 | 0,15 |
| Calcio (Ca) | mg/L | | | 200 | 280 | 110 | 430 |
| Potasio (K) | mg/L | | | 5,3 | 240 | 130 | 2,3 |
| Magnesio (Mg) | mg/L | | | 130 | 350 | 160 | 260 |
| Manganeso (Mn) | mg/L | | | 0,17 | 0,17 | 0,23 | 0,46 |
| Sodio (Na) | mg/L | | | 570 | 1700 | 1800 | 410 |
| | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | |
| Benceno | µg/L | 0,2 | 30 | | 32 | 150 | 7,1 |
| Etilbenceno | µg/L | 4 | 150 | | 150 | 2500 | 1,1 |
| Tolueno | µg/L | 7 | 1000 | 0,2 | 78 | 760 | 1,2 |
| o-Xileno | µg/L | | | | 18 | 430 | 0,3 |
| m,p-Xileno | µg/L | | | | 230 | 7200 | 0,7 |
| Xilenos (sum) | µg/L | 0,2 | 70 | | 250 | 7700 | 1 |
| 1,2,4-Trimetilbenceno | µg/L | | | | 40 | 1500 | 0,1 |
| Isopropilbenceno | µg/L | | | | 6,4 | 21 | 0,9 |
| | | | | | | | |
| **Fenoles** | | | | | | | |
| p-Cresol | µg/L | | | | 9,8 | 360 | 0,44 |
| Cresoles (suma) | µg/L | 0,2 | 200 | | 13 | 360 | 0,44 |
| 2,4-Dimetilfenol | µg/L | | | | 3,3 | 110 | 0,26 |
| 2,5-Dimetilfenol | µg/L | | | | 1,7 | 16 | 0,09 |
| 2,6-Dimetilfenol | µg/L | | | | | 14 | 0,21 |
| 3,4-Dimetilfenol | µg/L | | | | 10 | 32 | 0,17 |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | µg/L | | | | 13 | 85 | 0,46 |
| Timol | µg/L | | | | | | |
| | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | |
| Tricloroetileno | µg/L | 24 | 500 | | 0,37 | | 0,91 |
| Tetracloroetileno | µg/L | 0,01 | 40 | 0,3 | 0,3 | | 0,36 |
| Diclorometano | µg/L | 0,01 | 1000 | | 2,1 | | 2 |
| Cloruro de vinilo | µg/L | 0,01 | 5 | | 1,2 | | 5,4 |
| trans 1,2-Dichloroetileno | µg/L | | | | | | 0,65 |
| cis 1,2-Dicloroetileno | µg/L | | | | 1,5 | | 4,5 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | | 2,4 | | 1,3 |
| | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | |
| Naftaleno | µg/L | 0,1 | 70 | | 36 | 420 | |
| Fluoreno | µg/L | | | | 2,4 | | |
| HAP 10 VROM (suma) | µg/L | | | | 36 | 420 | |
| HAP 16 EPA (suma) | µg/L | | | | 38 | 420 | |
| | | | | | | | |
| **Clorobencenos** | | | | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | | 6,1 | 12 | 0,1 |
| 1,2-Diclorobenceno | µg/L | | | | 0,6 | | |
| 1,3-Diclorobenceno | µg/L | | | | 0,3 | | |
| 1,4-Diclorobenceno | µg/L | | | | 9,6 | 38 | |
| Diclorobencenos (suma) | µg/L | 3 | 50 | | 11 | 38 | |
| 1,2,4-Triclorobenceno | µg/L | | | | 0,71 | | |
| Triclorobencenos (suma) | µg/L | 0,01 | 10 | | 0,97 | | |
| | | | | | | | |
| **Clorofenoles** | | | | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | | 3,7 | 15 | 0,42 |
| 3,4-Diclorofenol | µg/L | | | | 1,3 | 2,4 | 0,39 |
| 3,5-Diclorofenol | µg/L | | | | 3,5 | | |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | | 8,9 | 17 | 0,81 |
| 4-Cloro-3-metilfenol | µg/L | | | | 5,1 | 31 | 1,5 |
| | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | |
| Bifenilo | µg/L | | | | 2,3 | 3,1 | |
| | | | | | | | |
| **TPH** | | | | | | | |
| TPH C10-C16 | µg/L | | | | 1000 | 12000 | 300 |
| TPH C16-C22 | µg/L | | | | 550 | 3000 | 120 |
| TPH C22-C30 | µg/L | | | | 250 | 12000 | 43 |
| TPH C30-C40 | µg/L | | | | 290 | 11000 | |
| TPH (suma C10-C40) | µg/L | 50 | 600 | | 2100 | 37000 | 470 |
| | | | | | | | |
| **Cloroanilinas** | | | | | | | |
| 2,3-Dicloroanilina | µg/L | | | <0,02 | 0,53 | <2,0 | <0,02 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <0,10 | <1,0 | 73 | <0,10 |
| 2,6-Dicloroanilina | µg/L | | | <0,01 | <0,10 | <1,0 | <0,01 |
| 3,5-Dicloroanilina | µg/L | | | <0,2 | <2,0 | <20 | <0,2 |
| Dicloroanilinas (suma) | µg/L | | 100 | -- | 0,53 | 73 | -- |
| | | | | | | | |
| **Compuestos Inorgánicos** | | | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 | <0,10 | <0,10 | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 5,3 | 51 | 78 | 16 |
| Amonio como NH4-N | mg N/L | | | 0,11 | 450 | 520 | 1,3 |
| Amonio (NH4) | mg/L | | | 0,14 | 580 | 670 | 1,7 |
| Cloruro | mg/L | 100 | | 1100 | 3660 | 4850 | 998 |
| Nitrato equivalente NO3-N | mg N/L | | | 2,7 | <0,20 | <0,20 | <0,20 |
| Nitrato (NO3) | mg/L | | | 12 | <0,90 | <0,90 | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,023 | <0,010 | <0,010 | <0,010 |
| Nitrito (NO2) | mg/L | | | 0,076 | <0,030 | <0,030 | <0,030 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 380 | 120 | 540 | 670 |
| Sulfato como (SO4-S) | mg S/L | | | 130 | 41 | 180 | 220 |

## S5 SOIL GAS

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra/ Profundidad (m) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | TARGET (EPA) | | SG-2 | | | SG-3 | SG-4 |
| | | DEEP | SHALLOW | SG2-10-II | SG2-10-III | SG2-4-I | SG-3 | SG-4 |
| **Hidrocarburos Monoaromáticos** | | | | 10,00 | 10,00 | 4,00 | - | - |
| Benceno | µg/l | 0,2 | 0,02 | <0,17 | 8,00 | <0,17 | 0,32 | 0,25 |
| Tolueno | µg/l | 26,0 | 2,6 | <0,17 | 25,00 | <0,20 | 2,33 | 1,65 |
| Etilbenceno | µg/l | 100,0 | 10,0 | <0,17 | 18,33 | <0,17 | 0,71 | 0,42 |
| o-Xileno | µg/l | 70,0 | 7,0 | <0,17 | 1,67 | <0,17 | 0,51 | 0,17 |
| m,p-Xileno | µg/l | 70,0 | 7,0 | <0,17 | 6,50 | <0,17 | 1,44 | 0,55 |
| Xilenos (sum) | µg/l | 10,0 | 1,0 | | 8,17 | - | 2,00 | 0,72 |
| BTEXN (suma) | µg/l | | | | 60,00 | - | 5,44 | 3 |
| TPH volátil C6-C8 | µg/l | 40,0 | 4,0 | | 113,33 | - | 16,67 | 12,67 |
| TPH volátil C8-C10 | µg/l | 100,0 | 10,0 | | 26,67 | - | 2,89 | <02 |
| TPH volátil C10-C12 | µg/l | 100,0 | 10,0 | | 2,50 | - | <1,5 | <02 |
| TPH volátil C12-C14 | µg/l | | | | <1,67 | - | <1,5 | <02 |
| TPH volátil (suma C6-C14) | µg/l | | | <8,33 | 143,33 | <8,33 | 20 | 12,83 |
| Suma aromaticos C6 | µg/l | | | | 8,00 | -- | | |
| Suma aromaticos C7-C8 | µg/l | | | | 51,7 | <0,20 | | |
| Suma aromaticos C9-C10 | µg/l | | | | 2,50 | -- | | |
| | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | |
| Cloruro de vinilo | µg/l | 1,0 | 0,1 | <3,33 | 3,33 | <3,33 | <2,22 | <3,33 |
| | | | | | | | | |
| Alcoholes | µg/l | | | ND | | ND | ND | ND |
| Cetonas | µg/l | | | ND | | ND | ND | ND |
| Esteres | µg/l | | | ND | | ND | ND | ND |

## S6 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-6 | S-8 | S-12 | SP-12 | S-13 | | S-24 |
| | | industr | urbano | otros | eco | MS-601 | MR-801 | MR-1202 | MR-1203-SR | MR-1301 | MR-1302 | MS-2401 |
| **Características** | | | | | | 4,85-4,95 | 3,20-3,40 | 4,90-5,00 | 19,40-19,50 | 0,90-1,00 | 2,40-2,60 | 11,20-11,40 |
| ignición | % ms | | | | | | 1,6 | <0,5 | 1,5 | <0,5 | 3,3 | |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 26,9 | 22,8 | 20,6 | 10,9 | 45,7 | 14,9 | |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | 2,4 | | | | | | 1,4 |
| | | | | | | | | | | | | |
| **Elementos** | | | | | | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 11 | 10 | 13 | 9 | 22 | 12 | 12 |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | | | | | | | |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 94 | 89 | 63 | 84 | 120 | 120 | 57 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | | | | | 1 | | |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | | | | | | | |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 18 | 19 | 13 | 22 | 25 | 20 | 14 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 9 | 8 | 6 | 6 | 13 | 8 | 7 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 23 | 40 | 13 | 21 | 38 | 43 | 20 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | | | | 0,48 | | | |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 15 | 17 | 13 | 24 | 34 | 29 | 18 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | | | | 1 | 1 | | |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 20 | 20 | 13 | 20 | 29 | 22 | 17 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | | | | | | |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | | | | | | | |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 24 | 27 | 17 | 20 | 39 | 28 | 23 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 72 | 73 | 45 | 59 | 96 | 81 | 62 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | | | | | | | |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 |
| | | | | | | | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | | | | 10 | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | | | | 1,1 | | | |
| o-Xileno | mg/kg ms | | | | | | | | 3,2 | | | |
| m,p-Xileno | mg/kg ms | | | | | | | | 34 | | | |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | | | | 38 | | | |
| Estireno | mg/kg ms | 100 | 100 | 20 | | | | | | | | |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | | | | 23 | | 0,08 | |
| 1,3,5-Trimetilbenceno | mg/kg ms | | | | | | | | 62 | | | |
| n-Propilbenceno | mg/kg ms | | | | | | | | 2,7 | | | |
| Isopropilbenceno | mg/kg ms | | | | | | | | 0,69 | | | |
| n-Butilbenceno | mg/kg ms | | | | | | | | 3,4 | | | |
| sec-Butilbenceno | mg/kg ms | | | | | | | | 0,62 | | | |
| tert-Butilbeceno | mg/kg ms | | | | | | | | | | | |
| p-Isopropiltolueno | mg/kg ms | | | | | | | | 0,65 | | 0,05 | |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 |
| MTBE | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | | | | 0,52 | | | |
| o-Cresol | mg/kg ms | | | | | | | | 0,07 | | 0,02 | |
| m-Cresol | mg/kg ms | | | | | | | | 0,05 | | | |
| p-Cresol | mg/kg ms | | | | | | | | 0,9 | | 0,02 | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | | | | 1 | | 0,05 | |
| 2,4-Dimetilfenol | mg/kg ms | | | | | | | | 0,26 | | | |
| 2,5-Dimetilfenol | mg/kg ms | | | | | | | | 0,02 | | | |
| 2,6-Dimetilfenol | mg/kg ms | | | | | | | | 0,03 | | | |
| 3,4-Dimetilfenol | mg/kg ms | | | | | | | | 0,01 | | | |
| o-Etilfenol | mg/kg ms | | | | | | | | 0,02 | | | |
| m-Etilfenol | mg/kg ms | | | | | | | | 0,02 | | | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | mg/kg ms | | | | | | | | 0,03 | | | |
| | | | | | | | | | | | | |
| **Caracterizacion de aceite** | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | | | | 1,1 | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | | | | 10 | | | |
| o-Xileno | mg/kg ms | | | | | | | | 3,2 | | | |
| m,p-Xileno | mg/kg ms | | | | | | | | 34 | | | |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | | | | 38 | | | |
| BTEX (suma) | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | | | | 2,9 | | | |
| Acenaftileno | mg/kg ms | | | | | | | | | | | |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | | | | 0,02 | | | |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | | | | 0,02 | | | |
| Fenantreno | mg/kg ms | | | | | | | | 0,05 | | | |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | | | 0,02 | | | |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | | 0,01 | | 0,03 | | | |
| Pireno | mg/kg ms | 100 | 60 | 6 | | | | | 0,02 | | | |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | | | | | | | |
| Criseno | mg/kg ms | 100 | 100 | 20 | | | | | | | | |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | | | | | | | |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | | | | | | | |
| Benzo(a)pireno | mg/kg ms | 2 | 0,2 | 0,02 | | | | | | | | |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | | | | | | | |
| Benzo(ghi)perileno | mg/kg ms | | | | | | | | | | | |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | | | | | | | |
| HAP 10 VROM (suma) | mg/kg ms | | | | | | 0,01 | | 3,4 | | | |
| HAP 16 EPA (suma) | mg/kg ms | | | | | | 0,01 | | 3,5 | | | |
| | | | | | | | | | | | | |
| **TPH** | | | | | | | | | | | | |
| TPH C10-C16 | mg/kg ms | | | | | | | | 130 | | | |
| TPH C16-C22 | mg/kg ms | | | | | | | | 50 | | 13 | |
| TPH C22-C30 | mg/kg ms | | | | | | | | 110 | | 68 | |
| TPH C30-C40 | mg/kg ms | | | | | | | | 150 | | 76 | 13 |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | | | | 440 | | 160 | |
| | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,01 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | -- | -- | -- | -- | -- | 0,01 | -- |
| Tricloroeteno | mg/kg ms | | | | | | | | | | | |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | -- | -- | -- | -- | -- | 0,01 | -- |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | 0,01 | <0,010 |
| 1,2,3-Tricloropropano | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Hidrocarburos clorados polares** | | | | | | | | | | | | |
| Acetona | mg/kg ms | 100 | 10 | 1 | | | | | | | | |
| | | | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | | | |
| Monoclorobenceno | mg/kg ms | 35 | 10 | 1 | | | | | | | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | | | | |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | | | |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | | | 0,01 | | | | |
| Diclorobencenos (suma) | mg/kg ms | | | | | | | 0,01 | | | | |
| 1,2,3-Triclorobenceno | mg/kg ms | | | | | | | | | | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | | | | 0,01 | | | |
| 1,3,5-Triclorobenceno | mg/kg ms | | | | | | | | | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | | | | 0,01 | | | |
| 1,2,3,4-Tetraclorobenceno | mg/kg ms | | | | | | | | | | | |
| 1245&1235 Tetraclorobenceno | mg/kg ms | | | | | | | | | | | |
| Tetraclorobencenos (suma) | mg/kg ms | | | | | | | | | | | |
| Pentaclorobenceno (como POC/PC) | mg/kg ms | | | | | | | | | | | |
| Hexaclorobenceno | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | | | |
| o-Clorofenol | mg/kg ms | | | | | | | | | | | |
| m-Clorofenol | mg/kg ms | | | | | | | | 0,02 | | | |
| p-Clorofenol | mg/kg ms | | | | | | | | 0,04 | | | |
| Monoclorofenoles (suma) | mg/kg ms | 100 | 10 | 1 | | | | | 0,06 | | | |
| 2,4/2,5-Diclorofenol | mg/kg ms | 10 | 1 | 0,1 | | | | | <0,030 | | | |
| 3,4-Diclorofenol | mg/kg ms | | | | | | | | 0,013 | | | |
| 3,5-Diclorofenol | mg/kg ms | | | | | | | | | | | |
| Diclorofenoles (suma) | mg/kg ms | | | | | | | | 0,04 | | | |
| 2,3,5-Triclorofenol | | | | | | | | | 0,008 | | | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | | | | 0,006 | | | |
| 2,4,6-Triclorofenol | mg/kg ms | 90 | 9 | 0,9 | | | | | 0,002 | | | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | | | 0,008 | | | |
| Triclorofenoles (suma) | mg/kg ms | | | | | | | | 0,02 | | | |
| 2,3,4,5-Tetraclorofenol | mg/kg ms | | | | | | | | | | | |
| 2,3,4,6/2,3,5,6-Tetraclorofenol | | | | | | | | | | | | |
| Tetraclorofenoles (suma) | mg/kg ms | | | | | | | | | | | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | | | | 0,011 | | | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | | | | 0,039 | | | |
| | | | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| Dicloroanilinas (suma) | mg/kg ms | | | | | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | |
| **Bifenilos Policlorados** | | | | | | | | | | | | |
| PCB 28 | mg/kg ms | | | | | | | | 0,04 | | | |
| PCB 52 | mg/kg ms | | | | | | | | 0,008 | | | |
| PCB 101 | mg/kg ms | | | | | | | | 0,01 | | | |
| PCB 118 | mg/kg ms | | | | | | | | 0,008 | | | |
| PCB 138 | mg/kg ms | | | | | | | | 0,008 | | | |
| PCB 153 | mg/kg ms | | | | | | | | 0,006 | | | |
| PCB 180 | mg/kg ms | | | | | | | | 0,004 | | | |
| PCB (6) (suma) | mg/kg ms | | | | | | | | 0,074 | | | |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | | | | 0,082 | | | |
| | | | | | | | | | | | | |
| **Otros CHC clorados** | | | | | | | | | | | | |
| 1-Cloronaftaleno | mg/kg ms | | | | | | | | 0,075 | | | |
| | | | | | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | | | | <0,004 | | | <0,000 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | | | | | | | |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | | | | 0,006 | | | |
| Hexaclorobutadieno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | |
| Tedion | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Otros pesticidas** | | | | | | | | | | | | |
| Bifentrina | mg/kg ms | | | | | | | | 0,021 | | | |
| | | | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | | | | 0,1 | | | |
| Dibenzofurano | mg/kg ms | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **Ftalatos** | | | | | | | | | | | | |
| Dimetilftalato | mg/kg ms | | | | | | | | | | | |
| Dietilftalato | mg/kg ms | | | | | | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | | | | 1 | | | |
| Dibutilftalato | mg/kg ms | | | | | | | | 0,5 | | | |
| Butilbenciftalato | mg/kg ms | | | | | | | | | | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | | | 8,8 | | | |
| Di-n-octilftlato | mg/kg ms | | | | | | | | | | | |
| Ftalatos (suma) | mg/kg ms | | | | | | | | 10 | | | |

## S6 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | |
|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-3 | SP-5 |
| **Características** | | REF. | INT. | MA-03 | MA-05 |
| pH | | | | 7,6 | 7,2 |
| Temperatura de medición pH | °C | | | 18,5 | 18,4 |
| Temperatura de medición (EC) | °C | | | 18,5 | 18,4 |
| Conductividad eléctrica | mS/m | | | 300 | 130 |
| Factor de corr. EC-temp. (matemático) | | | | 1,155 | 1,158 |
| Material en suspensión | mg/l | | | | |
| Turbidez | NTU | | | | |
| DQO No Decantada | mg/L | | | | |
| Coliformes Totales | NMP/100ml | | | | |
| Escherichia Coli | NMP/100ml | | | | |
| | | | | | |
| **Elementos** | | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | | |
| Arsénico (As) | µg/L | 7,2 | 60 | 4 | |
| Bario (Ba) | µg/L | 200 | 625 | 19 | 110 |
| Berilio (Be) | µg/L | 0,05 | 15 | | |
| Cadmio (Cd) | µg/L | 0,06 | 6 | | |
| Cromo (Cr) | µg/L | 2,5 | 30 | | |
| Cobre (Cu) | µg/L | 1,3 | 75 | 7 | |
| Cobalto (Co) | µg/L | 0,7 | 100 | | |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | | |
| Plomo (Pb) | µg/L | 1,7 | 75 | 36 | 13 |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | 5 | |
| Manganeso (Mn) | µg/L | | | | |
| Níquel (Ni) | µg/L | 2,1 | 75 | 5 | 4 |
| Selenio (Se) | µg/L | 0,07 | 160 | 15 | |
| Estaño (Sn) | µg/L | 2,2 | 50 | | |
| Vanadio (V) | µg/L | 1,2 | 70 | 8 | 3 |
| Zinc (Zn) | µg/L | 24 | 800 | 23 | 7 |
| Aluminio (Al) | mg/L | | | 1,5 | 0,1 |
| Calcio (Ca) | mg/L | | | 120 | 79 |
| Potasio (K) | mg/L | | | 5,1 | 1,9 |
| Magnesio (Mg) | mg/L | | | 82 | 59 |
| Manganeso (Mn) | mg/L | | | 0,19 | <0,010 |
| Sodio (Na) | mg/L | | | 440 | 130 |
| RAS (Relación de Adsroción de sodio) | meq/l | | | | |
| Boro | µg/L | | | | |
| | | | | | |
| **Cloroanilinas** | | | | | |
| 2,3-Dicloroanilina | µg/L | | | <0,02 | <0,02 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <0,10 | <0,10 |
| 2,6-Dicloroanilina | µg/L | | | <0,01 | <0,01 |
| 3,5-Dicloroanilina | µg/L | | | <0,2 | <0,2 |
| Dicloroanilinas (suma) | µg/L | | 100 | -- | -- |
| | | | | | |
| **Compuestos Inorgánicos** | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 6,2 | 10 |
| Amonio como NH4-N | mg N/L | | | 0,091 | 0,07 |
| Amonio (NH4) | mg/L | | | 0,12 | 0,09 |
| Cloruro | mg/L | 100 | | 555 | 93 |
| Nitrato equivalente NO3-N | mg N/L | | | 4 | 4,6 |
| Nitrato (NO3) | mg/L | | | 18 | 20 |
| Nitrito como NO2-N | mg N/L | | | 0,014 | <0,010 |
| Nitrito (NO2) | mg/L | | | 0,046 | <0,030 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 290 | 30 |
| Sulfato como (SO4-S) | mg S/L | | | 95 | 10 |

## S7 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-9 | S-10 | | | S-11 | | S-12 | SP-12 | S-13 | | S-14 | S-16 | | | S-18 | |
| | | industr. | urbano | otros | eco | MR-902 | MR-1003 | MR-1004 | MR-1006-02 | MR-1101 | MR-1104 | MR-1202 | MR-1203-SP | MR-1301 | MR-1302 | MR-1401 | MR-1601 | MR-1604 | MS-1601 | MR-1801 | MR-1802 |
| | | | | | | 8,40-8,50 | 11,00-11,20 | 16,00-16,20 | 24,40-24,50 | 2,90-3,00 | 17,00-17,20 | 4,90-5,00 | 19,40-19,50 | 0,90-1,00 | 2,40-2,60 | 2,80-3,00 | 3,60-3,80 | 22,10-22,20 | 36,70-36,80 | 16,40-16,60 | 19,25-19,40 |
| **Características** | | | | | | | | | | | | | | | | | | | | | |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | 3,5 | | | 2,4 | 1,5 | 13 | <0,5 | 1,5 | <0,5 | 3,3 | 1,1 | 11 | 12 | 2,2 | 3,2 | 3 |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 26,3 | 25,8 | 22,7 | 36,1 | 24,8 | 23,6 | 20,6 | 10,9 | 45,7 | 14,9 | 42,7 | 5,3 | 10,6 | 30,3 | 9,8 | 10 |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | | 3,2 | 5,4 | | | | | | | | | | | | | |
| **Elementos** | | | | | | | | | | | | | | | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 15 | 10 | 13 | 25 | 25 | 25 | 13 | 9 | 22 | 12 | 12 | 11 | 9 | 15 | 12 | 19 |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | | | 10 | | | | | | | | | 34 | | | 3 | 3 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 190 | 93 | 140 | 140 | 100 | 150 | 63 | 84 | 120 | 120 | 130 | 1100 | 200 | 85 | 120 | 73 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 1 | | | 1 | | | | | 1 | | 1 | | | 1 | | |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | | | | | | 0,3 | | | | | | 8,8 | | | | |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 27 | 20 | 24 | 32 | 20 | 45 | 13 | 22 | 25 | 20 | 19 | 360 | 10 | 18 | 19 | 34 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 13 | 7 | 8 | 16 | 9 | 8 | 6 | 6 | 13 | 8 | 12 | 15 | 3 | 10 | 8 | 18 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 58 | 21 | 36 | 73 | 39 | 130 | 13 | 21 | 38 | 43 | 38 | 6900 | 100 | 38 | 42 | 48 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | 0,08 | | 0,06 | | 0,09 | 0,2 | | 0,48 | | | | | 5 | 0,6 | | |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 97 | 15 | 96 | 37 | 31 | 57 | 13 | 24 | 34 | 29 | 30 | 1000 | 37 | 24 | 34 | 40 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 2,1 | | | 1,6 | 5,3 | 6,7 | | 1 | 1 | | | 16 | 1,4 | 1 | 1,4 | |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 28 | 22 | 20 | 32 | 20 | 20 | 13 | 20 | 29 | 22 | 21 | 350 | 9 | 18 | 34 | 38 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | | | | | 10 | | | | | 9 | 8 | | | | 7 |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | | | | | | | | | | | | 86 | | | 6 | |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 37 | 26 | 31 | 43 | 30 | 34 | 17 | 20 | 39 | 28 | 51 | 33 | 15 | 52 | 24 | 33 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 130 | 53 | 82 | 280 | 88 | 160 | 45 | 59 | 96 | 81 | 120 | 1900 | 66 | 94 | 1600 | 150 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | | | | | | | | | | | | <0,10 | <0,10 | <0,10 | | |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | | | | | | | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | 0,7 | | 0,6 | 0,6 | | 0,3 | | 10 | | | | | | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | 1,3 | | 1,4 | 0,7 | | 0,7 | | 1,1 | | | | | | | | |
| o-Xileno | mg/kg ms | | | | | | | 0,3 | 0,4 | | | | 3,2 | | | | | | | | |
| m,p-Xileno | mg/kg ms | | | | | | | 2,2 | 1,5 | | 0,4 | | 34 | | | | | | | | |
| Xilenos (suma) | mg/kg ms | 100 | 100 | 35 | | 1,3 | | 2,5 | 1,9 | | 0,4 | | 38 | | | | | | | | |
| Estireno | mg/kg ms | 100 | 100 | 20 | | | | 1,6 | | | | | | | | | | | | | |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | 0,64 | | 1,2 | 8,1 | | 0,15 | | 23 | | 0,08 | | | 0,05 | | 0,06 | |
| 1,3,5-Trimetilbenceno | mg/kg ms | | | | | 0,2 | | 0,34 | 2 | | 0,06 | | 62 | | | | | | | | |
| n-Propilbenceno | mg/kg ms | | | | | 0,07 | | 0,12 | 1,5 | | | | 2,7 | | | | | | | | |
| Isopropilbenceno | mg/kg ms | | | | | | | | 0,17 | | 0,13 | | 0,69 | | | | | | | | |
| n-Butilbenceno | mg/kg ms | | | | | | | | 2,3 | | | | 3,4 | | | | | | | | |
| sec-Butilbenceno | mg/kg ms | | | | | | | | 0,41 | | | | 0,62 | | | | | | | | |
| tert-Butibeceno | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| p-Isopropiltolueno | mg/kg ms | | | | | 0,65 | | 0,12 | 6,1 | | 0,15 | | 0,65 | | 0,05 | | | | | | |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 |
| MTBE | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | | | | | | | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | 6,3 | | 3 | 1,6 | 0,01 | 4,8 | | 0,52 | | | | | | | | 0,21 |
| o-Cresol | mg/kg ms | | | | | 0,03 | | 0,28 | 0,04 | | 0,11 | | 0,07 | | 0,02 | | | 0,01 | | | |
| m-Cresol | mg/kg ms | | | | | 0,12 | | 0,31 | 0,02 | | 0,1 | | 0,05 | | | | | | | | |
| p-Cresol | mg/kg ms | | | | | 2,3 | | 0,48 | 0,44 | | 1,2 | | 0,9 | | 0,02 | | | | | | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | 2,5 | | 1,1 | 0,49 | | 1,4 | | 1 | | 0,05 | | | 0,01 | | | |
| 2,4-Dimetilfenol | mg/kg ms | | | | | | | 0,14 | | | 0,06 | | 0,26 | | | | | | | | |
| 2,5-Dimetilfenol | mg/kg ms | | | | | | | 0,06 | | | | | 0,02 | | | | | | | | |
| 2,6-Dimetilfenol | mg/kg ms | | | | | | | 0,03 | | | 0,01 | | 0,03 | | | | | | | | |
| 3,4-Dimetilfenol | mg/kg ms | | | | | | | 0,07 | | | | | 0,01 | | | | | | | | |
| o-Etilfenol | mg/kg ms | | | | | | | 0,02 | | | | | 0,02 | | | | | | | | |
| m-Etilfenol | mg/kg ms | | | | | 0,01 | | 0,07 | | | | | 0,02 | | | | | | | | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | mg/kg ms | | | | | 0,02 | | 0,18 | 0,02 | | 0,03 | | 0,03 | | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | | | | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | | | | | | | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | 1,3 | | 1,4 | 0,7 | | 0,7 | | 1,1 | | | | | | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | 0,7 | | 0,6 | 0,6 | | 0,3 | | 10 | | | | | | | | |
| o-Xileno | mg/kg ms | | | | | | | 0,3 | 0,4 | | | | 3,2 | | | | | | | | |
| m,p-Xileno | mg/kg ms | | | | | 1,3 | | 2,2 | 1,5 | | 0,4 | | 34 | | | | | | | | |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | 1,3 | | 2,5 | 1,9 | | 0,4 | | 38 | | | | | | | | |
| BTEX (suma) | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | | | | | | | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | 0,23 | 0,05 | 0,3 | 2,3 | | 0,2 | | 2,9 | | | | 0,02 | 0,04 | | 0,14 | |
| Acenaftileno | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | | | 0,03 | 0,04 | | 0,04 | | 0,02 | | | | | | | 0,01 | |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | 0,02 | | 0,06 | 0,08 | | 0,03 | | 0,02 | | | | | 0,04 | | 0,01 | |
| Fenantreno | mg/kg ms | | | | | 0,08 | | 0,28 | 0,11 | 0,02 | 0,24 | | 0,05 | | | | | 0,2 | | 0,19 | |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | | 0,05 | 0,02 | | 0,03 | | 0,02 | | | | | | | 0,03 | |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | 0,02 | | 0,23 | 0,02 | 0,02 | 0,25 | | 0,03 | | | | 0,03 | 0,1 | | 0,1 | 0,02 |
| Pireno | mg/kg ms | 100 | 60 | 6 | | 0,11 | | 0,18 | 0,03 | 0,02 | 0,18 | | 0,02 | | | | 0,03 | 0,04 | | 0,14 | 0,02 |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,06 | | | 0,12 | | | | | | 0,02 | 0,01 | | 0,08 | |
| Criseno | mg/kg ms | 100 | 100 | 20 | | | | 0,06 | | 0,01 | 0,12 | | | | | | 0,02 | 0,03 | | 0,13 | 0,01 |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,04 | | 0,01 | 0,1 | | | | | | 0,04 | | | 0,1 | 0,01 |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | | | 0,01 | | | 0,04 | | | | | | 0,02 | | | 0,04 | |
| Benzo(a)pireno | mg/kg ms | 2 | 0,2 | 0,02 | | | | 0,02 | | | 0,06 | | | | | | 0,02 | | | 0,05 | |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | | | | | | | | | | | | | | | 0,01 | |
| Benzo(ghi)perileno | mg/kg ms | | | | | | | 0,01 | | | 0,03 | | | | | | 0,01 | | | 0,03 | |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | | | 0,01 | | | 0,03 | | | | | | | | | 0,03 | |
| HAP 10 VROM (suma) | mg/kg ms | | | | | 0,33 | 0,05 | 1,1 | 2,4 | 0,05 | 1,1 | | 3,4 | | | | 0,15 | 0,38 | | 0,82 | 0,03 |
| HAP 16 EPA (suma) | mg/kg ms | | | | | 0,45 | 0,05 | 1,4 | 2,6 | 0,08 | 1,5 | | 3,5 | | | | 0,22 | 0,46 | | 1,1 | 0,06 |
| **TPH** | | | | | | | | | | | | | | | | | | | | | |
| TPH C10-C16 | mg/kg ms | | | | | 27 | | 55 | 590 | 19 | 50 | | 130 | | | | | | | 10 | |
| TPH C16-C22 | mg/kg ms | | | | | 71 | | 95 | 300 | 33 | 70 | | 50 | | 13 | | | 19 | | 51 | |
| TPH C22-C30 | mg/kg ms | | | | | 340 | | 91 | 390 | 150 | 160 | | 110 | | 68 | | | 36 | | 76 | |
| TPH C30-C40 | mg/kg ms | | | | | 930 | | 55 | 150 | 170 | 79 | | 150 | | 76 | | | 23 | | 53 | |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | 1400 | | 300 | 1400 | 370 | 360 | | 440 | | 160 | | | 86 | | 190 | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | | | | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | | |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | 0,016 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,02 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,050 | <0,005 | 0,052 | <0,005 | <0,005 | 0,023 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | 0,021 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | 0,013 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 | | 0,5 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | 0,15 | 0,011 | 0,006 | <0,005 | 0,02 | <0,005 | <0,005 | <0,005 | <0,005 | 0,01 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | 0,15 | 0,011 | 0,0059 | -- | 0,02 | -- | -- | -- | -- | 0,01 | -- | -- | -- | -- | -- | -- |
| Tricloroeteno | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | 0,230 | 0,011 | 0,083 | -- | 0,02 | 0,02 | -- | -- | -- | 0,01 | -- | -- | -- | -- | 0,041 | -- |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| 1,2,3-Tricloropropano | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| **Hidrocarburos clorados polares** | | | | | | | | | | | | | | | | | | | | | |
| Acetona | mg/kg ms | 100 | 10 | 1 | | | | | | | | | | | | | <5,0 | <5,0 | <5,0 | | |
| **Clorobencenos** | | | | | | | | | | | | | | | | | | | | | |
| Monoclorobenceno | mg/kg ms | 35 | 10 | 1 | | | | | 0,02 | | 0,02 | | | | | | | | | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | <0,290 | | <0,020 | | | | | | | | | | <0,020 |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | | 0,01 | | | | | | | | | | 0,28 |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | 5,6 | 0,07 | 0,54 | 13 | 0,28 | 0,17 | 0,01 | | | | | | | | | 0,11 |
| Diclorobencenos (suma) | mg/kg ms | | | | | 5,6 | 0,07 | 0,54 | 14 | 0,28 | 0,2 | 0,01 | | | | | | | | | 0,41 |
| 1,2,3-Triclorobenceno | mg/kg ms | | | | | 0,03 | | | 0,04 | | 0,04 | | | | | | | | | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | 0,06 | | 0,03 | 0,06 | | 0,05 | | 0,01 | | | | | | | | 0,19 |
| 1,3,5-Triclorobenceno | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | 0,1 | | 0,03 | 0,1 | | 0,09 | | 0,01 | | | | | | | | 0,19 |
| 1,2,3,4-Tetraclorobenceno | mg/kg ms | | | | | | | 0,006 | | | 0,013 | | | | | | | | | | |
| 1245&1235 Tetraclorobenceno | mg/kg ms | | | | | | | | | | 0,008 | | | | | | | | | | |
| Tetraclorobencenos (suma) | mg/kg ms | | | | | | | 0,006 | | | 0,02 | | | | | | | | | | |
| Pentaclorobenceno (como POC/PC) | mg/kg ms | | | | | | | | | | 0,004 | | | | | | | 0,01 | | | |
| Hexaclorobenceno | mg/kg ms | | | | | | | | | | | | | | | | | 0,047 | | | |
| **Clorofenoles** | | | | | | | | | | | | | | | | | | | | | |
| o-Clorofenol | mg/kg ms | | | | | | | | 0,07 | | | | | | | | | | | | |
| m-Clorofenol | mg/kg ms | | | | | | | 0,01 | 0,03 | | | | 0,02 | | | | | | | | |
| p-Clorofenol | mg/kg ms | | | | | | | | 0,03 | | 0,06 | | 0,04 | | | | | | | | |
| Monoclorofenoles (suma) | mg/kg ms | 100 | 10 | 1 | | | | 0,01 | 0,13 | | 0,06 | | 0,06 | | | | | | | | |
| 2,4/2,5-Diclorofenol | mg/kg ms | 10 | 1 | 0,1 | | <0,008 | <0,002 | | <0,017 | <0,001 | <0,011 | | <0,030 | | | | | | | | |
| 3,4-Diclorofenol | mg/kg ms | | | | | | | | 0,015 | | 0,002 | | 0,013 | | | | | | | | |
| 3,5-Diclorofenol | mg/kg ms | | | | | | | | 0,008 | | | | | | | | | | | | |
| Diclorofenoles (suma) | mg/kg ms | | | | | 0,008 | 0,002 | | 0,04 | 0,001 | 0,01 | | 0,04 | | | | | | | | |
| 2,3,5-Triclorofenol | | | | | | | | | | | | | 0,008 | | | | | | | | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | 0,002 | | | 0,002 | | 0,008 | | 0,006 | | | | | | | | |
| 2,4,6-Triclorofenol | mg/kg ms | 90 | 9 | 0,9 | | | | | 0,004 | | 0,006 | | 0,002 | | | | | 0,005 | | | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | 0,006 | | 0,029 | | | | 0,008 | | | | | | | | |
| Triclorofenoles (suma) | mg/kg ms | | | | | 0,002 | 0,006 | | 0,04 | | 0,01 | | 0,02 | | | | | 0,005 | | | |
| 2,3,4,5-Tetraclorofenol | mg/kg ms | | | | | | | | | | 0,002 | | | | | | | | | | |
| 2,3,4,6/2,3,5,6-Tetraclorofenol | | | | | | | | | | | | | | | | | | | | | |
| Tetraclorofenoles (suma) | mg/kg ms | | | | | | | | | | 0,002 | | | | | | | | | | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | 0,064 | | 0,014 | 0,028 | | 0,054 | | 0,011 | | | | | | | | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | 0,015 | | | | | 0,013 | | 0,039 | | | | | | | | 0,027 |
| **Cloroanilinas** | | | | | | | | | | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| Dicloroanilinas (suma) | mg/kg ms | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **Bifenilos Policlorados** | | | | | | | | | | | | | | | | | | | | | |
| PCB 28 | mg/kg ms | | | | | | | | | | 0,011 | | 0,04 | | | | | | | | |
| PCB 52 | mg/kg ms | | | | | | | | | | 0,002 | | 0,008 | | | | | | | | |
| PCB 101 | mg/kg ms | | | | | | | | 0,006 | | | | 0,01 | | | | | 0,002 | | 0,004 | |
| PCB 118 | mg/kg ms | | | | | | | | | | | | 0,008 | | | | | | | 0,004 | |
| PCB 138 | mg/kg ms | | | | | | | | | | | | 0,008 | | | | | | | 0,005 | |
| PCB 153 | mg/kg ms | | | | | | | | 0,011 | | 0,006 | | 0,006 | | | | | 0,01 | | 0,005 | |
| PCB 180 | mg/kg ms | | | | | | | | 0,01 | | 0,004 | | 0,004 | | | | | 0,014 | | 0,004 | |
| PCB (6) (suma) | mg/kg ms | | | | | | | | 0,027 | | 0,023 | | 0,074 | | | | | 0,026 | | 0,018 | |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | | | | 0,027 | | 0,023 | | 0,082 | | | | | 0,026 | | 0,022 | |
| **Otros CHC clorados** | | | | | | | | | | | | | | | | | | | | | |
| 1-Cloronaftaleno | mg/kg ms | | | | | | | | | | | | 0,075 | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | <0,050 | | | | <0,002 | <0,013 | | <0,004 | | | | | | | 0,007 | 0,009 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | 0,087 | | | | | | | | | | | | | | | |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | 0,21 | | | | 0,002 | 0,013 | | 0,006 | | | | | | | 0,007 | 0,017 |
| Hexaclorobutadieno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | | | | | 0,066 | 0,017 | 0,006 | | |
| Tedion | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| **Otros pesticidas** | | | | | | | | | | | | | | | | | | | | | |
| Bifentrina | mg/kg ms | | | | | | | | | | | | 0,021 | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | 0,055 | 0,014 | 0,074 | 0,098 | | 0,13 | | 0,1 | | | | | 0,036 | | 0,025 | |
| Dibenzofurano | mg/kg ms | | | | | | | 0,02 | | | 0,03 | | | | | | | 0,03 | | 0,05 | |
| **Ftalatos** | | | | | | | | | | | | | | | | | | | | | |
| Dimetilftalato | mg/kg ms | | | | | | | 3 | | | | | | | | | | | | | |
| Dietilftalato | mg/kg ms | | | | | 0,3 | | | | | 7 | | | | | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | 0,8 | | 34 | | | 11 | | 1 | | | | | | | | |
| Dibutilftalato | mg/kg ms | | | | | 2,3 | | 1,1 | | | 0,9 | | 0,5 | | | | | | | | |
| Butilbenciftalato | mg/kg ms | | | | | | | 0,3 | | | 0,7 | | | | | | | | | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | | 12 | 22 | | 33 | | 8,8 | | | | | | | | |
| Di-n-octilftlato | mg/kg ms | | | | | | | | | | | | | | | | | | | | |
| Ftalatos (suma) | mg/kg ms | | | | | 3,3 | | 51 | 22 | | 52 | | 10 | | | | | | | | |

## S7 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-13 | SP-14 | SP-15 | SP-16 | SP-17 | POZO NUEVO | POZO VIEJO |
| **Características** | | REF. | INT. | MA-13 | MA-14 | MA-15 | MA-16 | MA-17 | MA-POZO-NUEVO | MA-POZO-VIEJO |
| pH | | | | 7,3 | 7,1 | 8,6 | 7,2 | 8,8 | 8,5 | 7,9 |
| Temperatura de medición pH | °C | | | 18,6 | 19,7 | 19,6 | 19,8 | 19,8 | 19,9 | 18,3 |
| Temperatura de medición (EC) | °C | | | 18,6 | 19,7 | 19,6 | 19,8 | 19,8 | 19,9 | 18,3 |
| Conductividad eléctrica | mS/m | | | 1500 | 380 | 16000 | 5300 | 7400 | 13000 | 16000 |
| Factor de corr. EC-temp. (matemático) | | | | 1,152 | 1,124 | 1,126 | 1,121 | 1,121 | 1,119 | 1,161 |
| Material en suspensión | mg/l | | | | | | | | | |
| Turbidez | NTU | | | | | | | | | |
| DQO No Decantada | mg/L | | | | | | | | | |
| Coliformes Totales | NMP/100ml | | | | | | | | | |
| Escherichia Coli | NMP/100ml | | | | | | | | | |
| | | | | | | | | | | |
| **Elementos** | | | | | | | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | 9 | | 120 | 110 | | 93 | |
| Arsénico (As) | µg/L | 7,2 | 60 | 22 | 24 | 55 | | | 120 | 86 |
| Bario (Ba) | µg/L | 200 | 625 | 2100 | 130 | 330 | 620 | 250 | 1300 | 650 |
| Berilio (Be) | µg/L | 0,05 | 15 | | | | | | | |
| Cadmio (Cd) | µg/L | 0,06 | 6 | | | | | | | |
| Cromo (Cr) | µg/L | 2,5 | 30 | 54 | | | | 45 | | 70 |
| Cobre (Cu) | µg/L | 1,3 | 75 | 5 | 4 | 110 | 94 | 48 | 100 | 42 |
| Cobalto (Co) | µg/L | 0,7 | 100 | 14 | 4 | 18 | 23 | 16 | 19 | 10 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | 0,15 | | 0,56 | 0,2 | 0,3 | 0,56 | 0,88 |
| Plomo (Pb) | µg/L | 1,7 | 75 | 7 | 3 | 43 | 49 | 110 | | |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | 5 | 7 | 150 | | | | |
| Manganeso (Mn) | µg/L | | | | | | | | | |
| Níquel (Ni) | µg/L | 2,1 | 75 | 83 | 7 | 60 | 41 | 52 | 31 | 49 |
| Selenio (Se) | µg/L | 0,07 | 160 | 12 | | 110 | 55 | | 50 | |
| Estaño (Sn) | µg/L | 2,2 | 50 | | | 78 | 55 | | 51 | |
| Vanadio (V) | µg/L | 1,2 | 70 | 10 | 7 | 58 | 76 | 100 | 59 | 100 |
| Zinc (Zn) | µg/L | 24 | 800 | 79 | 14 | 160 | 140 | 590 | 120 | 420 |
| Aluminio (Al) | mg/L | | | 3,9 | 0,11 | 0,1 | 0,32 | 8,3 | 0,1 | 0,85 |
| Calcio (Ca) | mg/L | | | 300 | 270 | 49 | 950 | 1900 | 70 | 140 |
| Potasio (K) | mg/L | | | 220 | 18 | 8400 | 440 | 2600 | 4900 | 9900 |
| Magnesio (Mg) | mg/L | | | 190 | 38 | 140 | 190 | 59 | 82 | 44 |
| Manganeso (Mn) | mg/L | | | 0,9 | 0,72 | 0,014 | 5,3 | 1,1 | 0,021 | 0,04 |
| Sodio (Na) | mg/L | | | 2300 | 510 | 51000 | 8700 | 14000 | 36000 | <0,050 |
| RAS (Relación de Adsroción de sodio) | meq/l | | | | | | | | | |
| Boro | µg/L | | | | | | | | | |
| | | | | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | | | | |
| Benceno | µg/L | 0,2 | 30 | 13 | 4,2 | 2,6 | 2,3 | 25 | 5,8 | 1,7 |
| Etilbenceno | µg/L | 4 | 150 | 19 | 10 | 3,4 | 3,7 | | 1,3 | 0,8 |
| Tolueno | µg/L | 7 | 1000 | 250 | 14 | 21 | 6,3 | 0,6 | 26 | 16 |
| o-Xileno | µg/L | | | 14 | 0,5 | 0,2 | 2,4 | | 2,3 | 0,5 |
| m,p-Xileno | µg/L | | | 50 | 3,9 | 1,1 | 6,3 | 0,1 | 3,2 | 2,6 |
| Xilenos (sum) | µg/L | 0,2 | 70 | 64 | 4,4 | 1,4 | 8,7 | 0,1 | 5,6 | 3,1 |
| 1,2,4-Trimetilbenceno | µg/L | | | 1,8 | 0,5 | | 0,7 | | 5,8 | 0,5 |
| 1,3,5-Trimetilbenceno | µg/L | | | 1,4 | | | | | | 0,2 |
| n-Propilbenceno | µg/L | | | 0,2 | | | | | | |
| Isopropilbenceno | µg/L | | | 0,7 | 0,5 | | 0,4 | | 2,1 | |
| p-Isopropiltolueno | µg/L | | | 4,4 | | | | | | 0,1 |
| | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | |
| p-Cresol | µg/L | | | 39 | | 9,5 | 34 | 2,1 | 28 | |
| Cresoles (suma) | µg/L | 0,2 | 200 | 39 | | 9,5 | 38 | 2,1 | 32 | |
| 2,4-Dimetilfenol | µg/L | | | | 0,93 | 0,2 | 0,39 | | | |
| 2,5-Dimetilfenol | µg/L | | | | 0,07 | | | | | |
| 2,6-Dimetilfenol | µg/L | | | | 0,1 | | | | | |
| 3,4-Dimetilfenol | µg/L | | | | | | | | | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | µg/L | | | | | | 2,7 | | | |
| Timol | µg/L | | | | | | | | | |
| | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | |
| Triclorometano | µg/L | 6 | 400 | | | | | | | |
| Tricloroetileno | µg/L | 24 | 500 | 0,19 | | 0,77 | 0,42 | | | |
| Tetracloroetileno | µg/L | 0,01 | 40 | | 0,42 | | 0,34 | | | |
| Tribromometano | µg/L | | 630 | | | | | | | |
| Bromodiclorometano | µg/L | | | | | | | | | |
| Dibromoclorometano | µg/L | | | | | | | | | |
| Diclorometano | µg/L | 0,01 | 1000 | | | | | | | |
| Cloruro de vinilo | µg/L | 0,01 | 5 | 6,9 | 4,4 | 39 | 20 | | 4,9 | 0,59 |
| trans 1,2-Dichloroetileno | µg/L | | | | | | | | | |
| cis 1,2-Dicloroetileno | µg/L | | | 1 | 1,1 | 1 | 0,9 | 0,61 | 1,4 | 0,58 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | | 0,39 | 0,47 | | | | |
| Dibromometano | µg/L | | | | 0,4 | | | | | |
| Bromometano | µg/L | | | | | | | | | |
| | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | |
| Naftaleno | µg/L | 0,1 | 70 | | | | | | 4,6 | |
| Fluoreno | µg/L | | | | 0,07 | | | | | |
| Fenantreno | µg/L | 0,003 | 5 | | 0,07 | | | | | |
| HAP 10 VROM (suma) | µg/L | | | | 0,07 | | | | 4,6 | |
| HAP 16 EPA (suma) | µg/L | | | | 0,1 | | | | 4,6 | |
| | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | 0,9 | | 0,2 | 0,8 | | 0,1 | |
| 1,2-Diclorobenceno | µg/L | | | 0,7 | | | | | 0,4 | |
| 1,3-Diclorobenceno | µg/L | | | | | | | | | |
| 1,4-Diclorobenceno | µg/L | | | 7,2 | 0,3 | | 0,8 | | | 0,3 |
| Diclorobencenos (suma) | µg/L | 3 | 50 | 7,9 | 0,3 | | 0,8 | | 0,4 | 0,3 |
| 1,2,3-Triclorobenceno | µg/L | | | 0,23 | | | | | | |
| 1,2,4-Triclorobenceno | µg/L | | | 0,32 | | | | | | |
| Triclorobencenos (suma) | µg/L | 0,01 | 10 | 0,55 | | | | | | 0,36 |
| Pentaclorobenceno (como POC/PC) | µg/L | 0,003 | 1 | | | | | | | |
| Hexaclorobenceno | µg/L | 0,00009 | 0,5 | | | | | | | |
| | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | 1,1 | 0,02 | 0,3 | 1,1 | 0,18 | 4,3 | |
| 3,4-Diclorofenol | µg/L | | | | | | | | | |
| 3,5-Diclorofenol | µg/L | | | | | | | 0,15 | 5,2 | |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | 1,1 | 0,02 | 0,3 | 1,5 | 0,51 | 11 | |
| 2,4,6-Triclorofenol | µg/L | | | | | 0,62 | 0,91 | | 4 | |
| 3,4,5-Triclorofenol | µg/L | | | | | | | | 1 | |
| Triclorofenoles (suma) | µg/L | 0,03 | 10 | | | 0,62 | 1,6 | 0,45 | 9,5 | |
| 4-Cloro-3-metilfenol | µg/L | | | 71 | | | | 0,13 | | |
| | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | |
| Bifenilo | µg/L | | | | 0,07 | 0,13 | | | 0,25 | |
| | | | | | | | | | | |
| **TPH** | | | | | | | | | | |
| TPH C10-C16 | µg/L | | | 4000 | | 2200 | 600 | 310 | 2200 | 2500 |
| TPH C16-C22 | µg/L | | | 980 | | 770 | 520 | 340 | 710 | 510 |
| TPH C22-C30 | µg/L | | | 4700 | | 0 | 330 | 290 | 580 | 660 |
| TPH C30-C40 | µg/L | | | 350 | | 76 | 120 | 250 | 160 | 110 |
| TPH (suma C10-C40) | µg/L | 50 | 600 | 10000 | | 3100 | 1600 | 1200 | 3700 | 3800 |
| | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | |
| 2,3-Dicloroanilina | µg/L | | | 2 | 0,02 | 0,2 | 0,2 | 0,02 | 0,2 | 2 |
| 2,4+2,5-Dicloroanilina | µg/L | | | 10 | 0,1 | 1 | 1 | 0,1 | 1 | 10 |
| 2,6-Dicloroanilina | µg/L | | | 1 | 0,01 | 0,1 | 0,1 | 0,01 | 0,1 | 1 |
| 3,5-Dicloroanilina | µg/L | | | 20 | 0,2 | 2 | 2 | 0,2 | 2 | 20 |
| Dicloroanilinas (suma) | µg/L | | 100 | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | |
| **Compuestos Inorgánicos** | | | | | | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | 0,1 | 0,1 | 4,1 | 0,1 | 0,1 | 4 | 0,1 |
| Alcalinidad total (valor M) | mmol/L | | | 55 | 4,2 | 34 | 16 | 3,3 | 22 | 22 |
| Amonio como NH4-N | mg N/L | | | 450 | 5,8 | 39 | 120 | 760 | 1400 | 38 |
| Amonio (NH4) | mg/L | | | 580 | 7,5 | 50 | 150 | 980 | 1800 | 49 |
| Cloruro | mg/L | 100 | | 3690 | 995 | 83200 | 19900 | 22900 | 64400 | 72200 |
| Nitrato equivalente NO3-N | mg N/L | | | <0,20 | <0,20 | 0,23 | <0,20 | <0,20 | <0,20 | <0,20 |
| Nitrato (NO3) | mg/L | | | <0,90 | <0,90 | 1 | <0,90 | <0,90 | <0,90 | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,01 | 0,011 | <0,010 | <0,010 | <0,010 | <0,010 | 0,098 |
| Nitrito (NO2) | mg/L | | | 0,033 | 0,036 | <0,030 | <0,030 | <0,030 | <0,030 | 0,32 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 190 | 280 | 2200 | 560 | 1600 | 520 | 2300 |
| Sulfato como (SO4-S) | mg S/L | | | 64 | 93 | 730 | 190 | 530 | 170 | 770 |

## S7 SOIL GAS

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra/ Profundidad (m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TARGET (EPA) | | SG-2 | | | SG-5 | | | SG-6 | | |
| | | DEEP | SHALLOW | SG2-10-II | SG2-10-III | SG2-4-I | SG5-10-II | SG5-10-III | SG5-6-I | SG6-10-II | SG6-10-III | SG6-5-I |
| **Hidrocarburos Monoaromáticos** | | | | 10,00 | 10,00 | 4,00 | 10,00 | 10,00 | 6,00 | 10,00 | 10,00 | 5,00 |
| Benceno | µg/l | 0,2 | 0,02 | <0,17 | 8,00 | <0,17 | 18,33 | 11,17 | <7,33 | 2,83 | 1,63 | <2,83 |
| Tolueno | µg/l | 26,0 | 2,6 | <0,17 | 25,00 | <0,20 | 90,00 | 31,67 | <9,17 | 35,00 | 14,83 | <35,00 |
| Etilbenceno | µg/l | 100,0 | 10,0 | <0,17 | 18,33 | <0,17 | 31,67 | 13,50 | <11,67 | 6,50 | 2,00 | <11,67 |
| Estireno | µg/l | 26,0 | 2,6 | <0,17 | | | <0,17 | | | <0,17 | | |
| n-Propilbenceno | µg/l | 40,0 | 4,0 | <0,17 | | | 1,2 | | | 0,466667 | | |
| Isopropilbenceno | µg/l | 40,0 | 4,0 | <0,17 | | | 0,17 | | | 0,17 | | |
| n-Butilbenceno | µg/l | 27,0 | 2,7 | <0,17 | | | <0,17 | | | <0,17 | | |
| iso-Butilbenceno | µg/l | 27,0 | 2,7 | <0,17 | | | <0,17 | | | 0,35 | | |
| tert-Butibeceno | µg/l | 27,0 | 2,7 | <0,17 | | | <0,17 | | | <0,17 | | |
| sec-Butilbenceno | µg/l | 27,0 | 2,7 | <0,17 | | | 0,2 | | | <0,17 | | |
| o-Xileno | µg/l | 70,0 | 7,0 | <0,17 | 1,67 | <0,17 | 10,50 | 3,67 | <1,10 | 3,00 | 0,60 | <4,67 |
| m,p-Xileno | µg/l | 70,0 | 7,0 | <0,17 | 6,50 | <0,17 | 31,67 | 13,50 | <2,83 | 9,50 | 3,00 | <13,17 |
| Xilenos (sum) | µg/l | 10,0 | 1,0 | | 8,17 | - | 41,67 | 16,67 | <4,00 | 12,50 | 2,67 | <18,33 |
| 2-Etiltolueno | µg/l | 40,0 | 4,0 | <0,17 | | | 2,33 | | | 1,28 | | |
| 3/4-Etiltolueno | µg/l | | | <0,17 | | | 2,67 | | | 1,42 | | |
| p-Cimeno | µg/l | 30,0 | 3,0 | <0,17 | | | 2,33 | | | 0,37 | | |
| 4-terc-Butiltolueno | µg/l | | | <0,17 | | | <0,17 | | | <0,2 | | |
| 1,3-Diisopropilbenceno | µg/l | | | <0,17 | | | <0,17 | | | <0,2 | | |
| 1,3,5-Trimetilbenceno | µg/l | 0,6 | 0,1 | <0,17 | | | 1,53 | | | 0,73 | | |
| 1,2,4-Trimetilbenceno | µg/l | 0,6 | 0,1 | <0,17 | | | 4,00 | | | 2,17 | | |
| 1,2,3,5-Tetrametilbenceno | µg/l | | | <0,17 | | | <0,17 | | | <0,17 | | |
| 1,2,4,5-Tetrametilbenceno | µg/l | | | <0,17 | | | <0,17 | | | <0,17 | | |
| Naftaleno | µg/l | 0,30 | 0,03 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| Tetralino | µg/l | | | <0,17 | | | <0,17 | | | <0,17 | | |
| BTEXN (suma) | µg/l | | | | 60,00 | - | 183,33 | 73,33 | <31,67 | 56,67 | 21,67 | <66,67 |
| TPH volátil C6-C8 | µg/l | 40,0 | 4,0 | | 113,33 | - | 48,33 | 21,67 | <23,33 | 22,83 | 8,83 | <31,67 |
| TPH volátil C8-C10 | µg/l | 100,0 | 10,0 | | 26,67 | - | 28,33 | 9,33 | <15,17 | 6,5 | <1,67 | <9,00 |
| TPH volátil C10-C12 | µg/l | 100,0 | 10,0 | | 2,50 | - | 6,67 | <1,67 | <1,67 | 1,83 | <1,67 | <3,67 |
| TPH volátil C12-C14 | µg/l | | | | <1,67 | - | <1,7 | <1,67 | <1,67 | <1,7 | <1,67 | <1,67 |
| TPH volátil (suma C6-C14) | µg/l | | | <8,33 | 143,33 | <8,33 | 81,67 | 31,67 | <40,00 | 31,67 | 8,83 | <45,00 |
| Suma aromaticos C6 | µg/l | | | | 8,00 | -- | | 11,17 | 7,33 | | 1,63 | 2,83 |
| Suma aromaticos C7-C8 | µg/l | | | | 51,7 | <0,20 | | 63,3 | 25,0 | | 20,0 | 65,0 |
| Suma aromaticos C9-C10 | µg/l | | | | 2,50 | -- | | 2,50 | 0,93 | | 0,38 | 3,33 |
| | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | |
| Diclorometano | µg/l | 2,1 | 0,2 | <3,33 | <3,33 | <3,33 | <3,33 | <3,33 | <3,33 | <3,33 | <3,33 | <3,33 |
| Triclorometano | µg/l | 0,043 | 0,004 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| Tetraclorometano | µg/l | 0,1 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,1-Dicloroetano | µg/l | 50,0 | 5,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloroetano | µg/l | 0,0 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,1,1-Tricloroetano | µg/l | 220,0 | 22,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,1,2-Tricloroetano | µg/l | 0,1 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | µg/l | 0,1 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| Tricloroetileno | µg/l | 0,0 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | 1,13 | <0,83 | <0,83 |
| Tetracloroetileno | µg/l | 25,0 | 2,5 | <0,83 | <0,83 | <0,83 | 1,83 | <1,52 | <0,83 | 3,17 | <2,17 | <1,35 |
| Monoclorobenceno | µg/l | 5,0 | 0,5 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,1-Dicloroetileno | µg/l | 20,0 | 2,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| cis -1,2-Dicloroetileno | µg/l | 79,0 | 7,9 | <0,83 | <0,83 | <0,83 | 1,50 | 2,00 | <0,83 | 12,17 | 14,33 | <4,33 |
| trans -1,2-Dicloroetileno | µg/l | 5,6 | 0,6 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | µg/l | 0,4 | 0,0 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| 1,4-Diclorobutano | µg/l | 0,7 | 0,1 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 | <0,83 |
| Cloruro de vinilo | µg/l | 1,0 | 0,1 | <3,33 | 3,33 | <3,33 | 12,33 | 13,67 | <3,33 | 26,67 | 28,33 | <18,33 |
| | | | | | | | | | | | | |
| Alcoholes | µg/l | | | ND | | ND | ND | | ND | ND | | ND |
| Cetonas | µg/l | | | ND | | ND | ND | | ND | ND | | ND |
| Esteres | µg/l | | | ND | | ND | ND | | ND | ND | | ND |

## SUELO-S8

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-13 | | S-15 | | S-18 | | S-19 | | S-24 |
| | | industr. | urbano | otros | eco | MR-1301 | MR-1302 | MR-1501 | MR-1502 | MR-1801 | MR-1802 | MR-1901 | MR-1902 | MS-2401 |
| **Características** | | | | | | 0,90-1,00 | 2,40-2,60 | 4,10-4,20 | 9,00-9,30 | 16,40-16,60 | 19,25-19,40 | 7,90-8,30 | 9,80-10,00 | 11,20-11,40 |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | <0,5 | 3,3 | 2,1 | 2,1 | 3,2 | 3 | 2,2 | | |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 45,7 | 14,9 | 26,4 | 8,3 | 9,8 | 10 | 11,3 | 8,2 | |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | | | | | | | | 2,8 | 1,4 |
| | | | | | | | | | | | | | | |
| **Elementos** | | | | | | | | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 22 | 12 | 13 | 11 | 12 | 19 | 14 | 13 | 12 |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | | | | | 3 | 3 | 3 | | |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 120 | 120 | 130 | 170 | 120 | 73 | 150 | 210 | 57 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 1 | | | | | | | | |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | | | | | | | | 0,5 | |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 25 | 20 | 20 | 16 | 19 | 34 | 21 | 22 | 14 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 13 | 8 | 6 | 4 | 8 | 18 | 7 | 8 | 7 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 38 | 43 | 37 | 51 | 42 | 48 | 31 | 31 | 20 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | | | 0,09 | 0,07 | | | 0,05 | 0,06 | |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 34 | 29 | 120 | 34 | 34 | 40 | 68 | 47 | 18 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 1 | | | 1 | 1,4 | | 1,2 | 1,5 | |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 29 | 22 | 15 | 12 | 34 | 38 | 17 | 17 | 17 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | | | | | 7 | | | |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | | | | | 6 | | | | |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 39 | 28 | 29 | 28 | 24 | 33 | 33 | 35 | 23 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 96 | 81 | 120 | 110 | 1600 | 150 | 75 | 81 | 62 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | | | | | | | | | |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | | | | | | | | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | | | |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | | 0,08 | | | 0,06 | | | | |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 |
| MTBE | mg/kg ms | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | | | 0,26 | 0,03 | | 0,21 | 0,19 | 0,16 | |
| o-Cresol | mg/kg ms | | | | | | 0,02 | | 0,02 | | | 0,03 | 0,02 | |
| p-Cresol | mg/kg ms | | | | | | 0,02 | | | | | | 0,02 | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | | 0,05 | | 0,02 | | | 0,03 | 0,04 | |
| | | | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | | | 0,02 | | 0,14 | | | | |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | | | | | 0,01 | | | | |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | | | 0,02 | | 0,01 | | | | |
| Fenantreno | mg/kg ms | | | | | | | 0,1 | 0,02 | 0,19 | | 0,02 | 0,02 | |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | | 0,02 | | 0,03 | | | | |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | | | 0,19 | 0,03 | 0,1 | 0,02 | 0,03 | 0,03 | |
| Pireno | mg/kg ms | 100 | 60 | 6 | | | | 0,13 | 0,02 | 0,14 | 0,02 | 0,02 | 0,02 | |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,08 | | 0,08 | | 0,01 | | |
| Criseno | mg/kg ms | 100 | 100 | 20 | | | | 0,06 | 0,01 | 0,13 | 0,01 | 0,01 | | |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,16 | 0,02 | 0,1 | 0,01 | 0,01 | | |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | | | 0,04 | | 0,04 | | | | |
| Benzo(a)pireno | mg/kg ms | 2 | 0,2 | 0,02 | | | | 0,07 | | 0,05 | | | | |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | | | 0,01 | | 0,01 | | | | |
| Benzo(ghi)perileno | mg/kg ms | | | | | | | 0,05 | | 0,03 | | | | |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | | | 0,06 | | 0,03 | | | | |
| HAP 10 VROM (suma) | mg/kg ms | | | | | | | 0,7 | 0,06 | 0,82 | 0,03 | 0,07 | 0,04 | |
| HAP 16 EPA (suma) | mg/kg ms | | | | | | | 1 | 0,1 | 1,1 | 0,06 | 0,1 | 0,06 | |
| | | | | | | | | | | | | | | |
| **TPH** | | | | | | | | | | | | | | |
| TPH C16-C22 | mg/kg ms | | | | | | 13 | 25 | | 51 | | 10 | 18 | |
| TPH C22-C30 | mg/kg ms | | | | | | 68 | 79 | 94 | 76 | | 17 | 32 | |
| TPH C30-C40 | mg/kg ms | | | | | | 76 | 57 | 150 | 53 | | 18 | 22 | 13 |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | | 160 | 170 | 250 | 190 | | 50 | 80 | |
| | | | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 | <0,005 | <0,005 | | | | | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | 0,02 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | 0,021 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | 0,01 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | -- | 0,01 | -- | -- | -- | -- | -- | -- | -- |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | -- | 0,01 | -- | -- | 0,041 | -- | -- | -- | -- |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 | 0,01 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| | | | | | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | | | | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | | | <0,020 | | | |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | | 0,28 | | | |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | | | | | | 0,11 | | | |
| Diclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,41 | | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | | | | | | 0,19 | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,19 | | | |
| | | | | | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | | | | | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | | | | | | | | 0,002 | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | | | | | | | 0,006 | |
| Triclorofenoles (suma) | mg/kg ms | | | | | | | | | | | | 0,008 | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | | | 0,002 | 0,004 | | | 0,014 | 0,002 | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | | | | | | 0,027 | | 0,002 | |
| | | | | | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| | | | | | | | | | | | | | | |
| **Bifenilos Policlorados** | | | | | | | | | | | | | | |
| PCB 101 | mg/kg ms | | | | | | | | | 0,004 | | | 0,004 | |
| PCB 118 | mg/kg ms | | | | | | | | | 0,004 | | | | |
| PCB 138 | mg/kg ms | | | | | | | | | 0,005 | | | | |
| PCB 153 | mg/kg ms | | | | | | | | | 0,005 | | 0,006 | 0,01 | |
| PCB 180 | mg/kg ms | | | | | | | | | 0,004 | | 0,006 | 0,016 | |
| PCB (6) (suma) | mg/kg ms | | | | | | | | | 0,018 | | 0,012 | 0,03 | |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | | | | | 0,022 | | 0,012 | 0,03 | |
| | | | | | | | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | | | <0,013 | <0,012 | 0,007 | 0,009 | 0,008 | 0,004 | <0,000 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | | | 0,007 | 0,014 | | | | | |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | | | 0,026 | 0,029 | 0,007 | 0,017 | 0,008 | 0,004 | |
| | | | | | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | | | | | 0,025 | | | | |
| Dibenzofurano | mg/kg ms | | | | | | | | | 0,05 | | | | |
| | | | | | | | | | | | | | | |
| **Ftalatos** | | | | | | | | | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | | | | 0,7 | | | 3,2 | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | | | 14 | | | | | |
| Ftalatos (suma) | mg/kg ms | | | | | | | | 15 | | | 3,2 | | |

## SUELO-S8

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-13 | | S-15 | | S-18 | | S-19 | | S-24 |
| | | industr. | urbano | otros | eco | MR-1301 | MR-1302 | MR-1501 | MR-1502 | MR-1801 | MR-1802 | MR-1901 | MR-1902 | MS-2401 |
| **Características** | | | | | | 0,90-1,00 | 2,40-2,60 | 4,10-4,20 | 9,00-9,30 | 16,40-16,60 | 19,25-19,40 | 7,90-8,30 | 9,80-10,00 | 11,20-11,40 |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | <0,5 | 3,3 | 2,1 | 2,1 | 3,2 | 3 | 2,2 | | |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 45,7 | 14,9 | 26,4 | 8,3 | 9,8 | 10 | 11,3 | 8,2 | |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | | | | | | | | 2,8 | 1,4 |
| | | | | | | | | | | | | | | |
| **Elementos** | | | | | | | | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 22 | 12 | 13 | 11 | 12 | 19 | 14 | 13 | 12 |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | | | | | 3 | 3 | 3 | | |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 120 | 120 | 130 | 170 | 120 | 73 | 150 | 210 | 57 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | 1 | | | | | | | | |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | | | | | | | | 0,5 | |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 25 | 20 | 20 | 16 | 19 | 34 | 21 | 22 | 14 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 13 | 8 | 6 | 4 | 8 | 18 | 7 | 8 | 7 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 38 | 43 | 37 | 51 | 42 | 48 | 31 | 31 | 20 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | | | 0,09 | 0,07 | | | 0,05 | 0,06 | |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 34 | 29 | 120 | 34 | 34 | 40 | 68 | 47 | 18 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 1 | | | 1 | 1,4 | | 1,2 | 1,5 | |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 29 | 22 | 15 | 12 | 34 | 38 | 17 | 17 | 17 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | | | | | 7 | | | |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | | | | | 6 | | | | |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 39 | 28 | 29 | 28 | 24 | 33 | 33 | 35 | 23 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 96 | 81 | 120 | 110 | 1600 | 150 | 75 | 81 | 62 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | | | | | | | | | |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | | | | | | | | | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | | | |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | | 0,08 | | | 0,06 | | | | |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 |
| MTBE | mg/kg ms | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | | | 0,26 | 0,03 | | 0,21 | 0,19 | 0,16 | |
| o-Cresol | mg/kg ms | | | | | | 0,02 | | 0,02 | | | 0,03 | 0,02 | |
| p-Cresol | mg/kg ms | | | | | | 0,02 | | | | | | 0,02 | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | | 0,05 | | 0,02 | | | 0,03 | 0,04 | |
| | | | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | | | 0,02 | | 0,14 | | | | |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | | | | | 0,01 | | | | |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | | | 0,02 | | 0,01 | | | | |
| Fenantreno | mg/kg ms | | | | | | | 0,1 | 0,02 | 0,19 | | 0,02 | 0,02 | |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | | 0,02 | | 0,03 | | | | |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | | | 0,19 | 0,03 | 0,1 | 0,02 | 0,03 | 0,03 | |
| Pireno | mg/kg ms | 100 | 60 | 6 | | | | 0,13 | 0,02 | 0,14 | 0,02 | 0,02 | 0,02 | |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,08 | | 0,08 | | 0,01 | | |
| Criseno | mg/kg ms | 100 | 100 | 20 | | | | 0,06 | 0,01 | 0,13 | 0,01 | 0,01 | | |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | | | 0,16 | 0,02 | 0,1 | 0,01 | 0,01 | | |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | | | 0,04 | | 0,04 | | | | |
| Benzo(a)pireno | mg/kg ms | 2 | 0,2 | 0,02 | | | | 0,07 | | 0,05 | | | | |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | | | 0,01 | | 0,01 | | | | |
| Benzo(ghi)perileno | mg/kg ms | | | | | | | 0,05 | | 0,03 | | | | |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | | | 0,06 | | 0,03 | | | | |
| HAP 10 VROM (suma) | mg/kg ms | | | | | | | 0,7 | 0,06 | 0,82 | 0,03 | 0,07 | 0,04 | |
| HAP 16 EPA (suma) | mg/kg ms | | | | | | | 1 | 0,1 | 1,1 | 0,06 | 0,1 | 0,06 | |
| | | | | | | | | | | | | | | |
| **TPH** | | | | | | | | | | | | | | |
| TPH C16-C22 | mg/kg ms | | | | | | 13 | 25 | | 51 | | 10 | 18 | |
| TPH C22-C30 | mg/kg ms | | | | | | 68 | 79 | 94 | 76 | | 17 | 32 | |
| TPH C30-C40 | mg/kg ms | | | | | | 76 | 57 | 150 | 53 | | 18 | 22 | 13 |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | | 160 | 170 | 250 | 190 | | 50 | 80 | |
| | | | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 | <0,005 | <0,005 | | | | | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | 0,02 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | 0,021 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | 0,01 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | -- | 0,01 | -- | -- | -- | -- | -- | -- | -- |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | -- | 0,01 | -- | -- | 0,041 | -- | -- | -- | -- |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 | 0,01 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| | | | | | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | | | | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | | | <0,020 | | | |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | | 0,28 | | | |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | | | | | | 0,11 | | | |
| Diclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,41 | | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | | | | | | 0,19 | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,19 | | | |
| | | | | | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | | | | | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | | | | | | | | 0,002 | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | | | | | | | 0,006 | |
| Triclorofenoles (suma) | mg/kg ms | | | | | | | | | | | | 0,008 | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | | | 0,002 | 0,004 | | | 0,014 | 0,002 | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | | | | | | 0,027 | | 0,002 | |
| | | | | | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| | | | | | | | | | | | | | | |
| **Bifenilos Policlorados** | | | | | | | | | | | | | | |
| PCB 101 | mg/kg ms | | | | | | | | | 0,004 | | | 0,004 | |
| PCB 118 | mg/kg ms | | | | | | | | | 0,004 | | | | |
| PCB 138 | mg/kg ms | | | | | | | | | 0,005 | | | | |
| PCB 153 | mg/kg ms | | | | | | | | | 0,005 | | 0,006 | 0,01 | |
| PCB 180 | mg/kg ms | | | | | | | | | 0,004 | | 0,006 | 0,016 | |
| PCB (6) (suma) | mg/kg ms | | | | | | | | | 0,018 | | 0,012 | 0,03 | |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | | | | | 0,022 | | 0,012 | 0,03 | |
| | | | | | | | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | | | <0,013 | <0,012 | 0,007 | 0,009 | 0,008 | 0,004 | <0,000 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | | | 0,007 | 0,014 | | | | | |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | | | 0,026 | 0,029 | 0,007 | 0,017 | 0,008 | 0,004 | |
| | | | | | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | | | | | 0,025 | | | | |
| Dibenzofurano | mg/kg ms | | | | | | | | | 0,05 | | | | |
| | | | | | | | | | | | | | | |
| **Ftalatos** | | | | | | | | | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | | | | 0,7 | | | 3,2 | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | | | 14 | | | | | |
| Ftalatos (suma) | mg/kg ms | | | | | | | | 15 | | | 3,2 | | |

## S8 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra |
|---|---|---|---|---|
| | | DUTCHLIST | | SP-18 |
| **Características** | | REF. | INT. | MA-18 |
| pH | | | | 7 |
| Temperatura de medición pH | °C | | | 19,5 |
| Temperatura de medición (EC) | °C | | | 19,5 |
| Conductividad eléctrica | mS/m | | | 650 |
| Factor de corr. EC-temp. (matemático) | | | | 1,129 |
| | | | | |
| **Elementos** | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | |
| Arsénico (As) | µg/L | 7,2 | 60 | 10 |
| Bario (Ba) | µg/L | 200 | 625 | 110 |
| Cromo (Cr) | µg/L | 2,5 | 30 | 5 |
| Cobre (Cu) | µg/L | 1,3 | 75 | |
| Cobalto (Co) | µg/L | 0,7 | 100 | 2 |
| Plomo (Pb) | µg/L | 1,7 | 75 | 8 |
| Níquel (Ni) | µg/L | 2,1 | 75 | 11 |
| Selenio (Se) | µg/L | 0,07 | 160 | 8 |
| Vanadio (V) | µg/L | 1,2 | 70 | 41 |
| Zinc (Zn) | µg/L | 24 | 800 | 30 |
| Aluminio (Al) | mg/L | | | 1,6 |
| Calcio (Ca) | mg/L | | | 520 |
| Potasio (K) | mg/L | | | 140 |
| Magnesio (Mg) | mg/L | | | 280 |
| Manganeso (Mn) | mg/L | | | 0,85 |
| Sodio (Na) | mg/L | | | 550 |
| | | | | |
| **Hidrocarburos Monoaromáticos** | | | | |
| Benceno | µg/L | 0,2 | 30 | 6,3 |
| Etilbenceno | µg/L | 4 | 150 | 37 |
| Tolueno | µg/L | 7 | 1000 | 1,3 |
| o-Xileno | µg/L | | | 0,7 |
| m,p-Xileno | µg/L | | | 12 |
| Xilenos (sum) | µg/L | 0,2 | 70 | 13 |
| 1,2,4-Trimetilbenceno | µg/L | | | 6,9 |
| Isopropilbenceno | µg/L | | | 3,1 |
| | | | | |
| **Fenoles** | | | | |
| p-Cresol | µg/L | | | 3,3 |
| Cresoles (suma) | µg/L | 0,2 | 200 | 3,3 |
| | | | | |
| **Hidrocarburos clorados Volátiles** | | | | |
| Tricloroetileno | µg/L | 24 | 500 | 0,62 |
| Tetracloroetileno | µg/L | 0,01 | 40 | |
| Tribromometano | µg/L | | 630 | |
| Diclorometano | µg/L | 0,01 | 1000 | |
| Cloruro de vinilo | µg/L | 0,01 | 5 | |
| trans 1,2-Dichloroetileno | µg/L | | | 1,4 |
| cis 1,2-Dicloroetileno | µg/L | | | 2,6 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | 2,1 |
| | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | |
| Fluoreno | µg/L | | | 1,1 |
| HAP 16 EPA (suma) | µg/L | | | 1,1 |
| | | | | |
| **Clorobencenos** | | | | |
| Monoclorobenceno | µg/L | 7 | 180 | 0,3 |
| 1,4-Diclorobenceno | µg/L | | | 0,7 |
| Diclorobencenos (suma) | µg/L | 3 | 50 | 0,7 |
| | | | | |
| **Clorofenoles** | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | 0,37 |
| 3,4-Diclorofenol | µg/L | | | 0,22 |
| 3,5-Diclorofenol | µg/L | | | 1,1 |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | 1,7 |
| 3,4,5-Triclorofenol | µg/L | | | 0,34 |
| Triclorofenoles (suma) | µg/L | 0,03 | 10 | 0,34 |
| 4-Cloro-3-metilfenol | µg/L | | | 4 |
| | | | | |
| **Varios compuestos orgánicos** | | | | |
| Bifenilo | µg/L | | | 0,23 |
| | | | | |
| **TPH** | | | | |
| TPH C10-C16 | µg/L | | | 2500 |
| TPH C16-C22 | µg/L | | | 960 |
| TPH C22-C30 | µg/L | | | 1400 |
| TPH C30-C40 | µg/L | | | 300 |
| TPH (suma C10-C40) | µg/L | 50 | 600 | 5100 |
| | | | | |
| **Cloroanilinas** | | | | |
| 2,3-Dicloroanilina | µg/L | | | <0,20 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <1,0 |
| 2,6-Dicloroanilina | µg/L | | | <0,10 |
| 3,5-Dicloroanilina | µg/L | | | <2,0 |
| | | | | |
| **Compuestos Inorgánicos** | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 28 |
| Amonio como NH4-N | mg N/L | | | 91 |
| Amonio (NH4) | mg/L | | | 120 |
| Cloruro | mg/L | 100 | | 764 |
| Nitrato equivalente NO3-N | mg N/L | | | <0,20 |
| Nitrato (NO3) | mg/L | | | <0,90 |
| Nitrito como NO2-N | mg N/L | | | <0,010 |
| Nitrito (NO2) | mg/L | | | <0,030 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 1600 |
| Sulfato como (SO4-S) | mg S/L | | | 540 |

## S9 SUELO

| Parámetro | Unidad | Valor de referencia | | | | PDM/ Muestra/ Profundidad (m) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NGRs | | | | S-17 | | S-20 | | S-22 | | S-23 | |
| | | industr. | urbano | otros | eco | MR-1701 | MR-1702 | MR-2001 | MR-2002 | MR-2201 | MR-2202 | MR-2301 | MR-2302 |
| | | | | | | 7,20-7,40 | 12,60-13,00 | 19,10-19,30 | 16,55-16,75 | 5,40-5,60 | 7,60-7,80 | 3,50-3,70 | 7,60-7,80 |
| **Características** | | | | | | | | | | | | | |
| Materia orgánica según método de pérdidas por ignición | % ms | | | | | 2,4 | 2,8 | | | | | | |
| Fracción < 2 µm (Arcilla) | % (m/m) ms | | | | | 15,5 | 8,8 | 5,9 | 5 | 17 | | 8,7 | 27,7 |
| Pérdida de ignición (indicación materia orgánica) | % ms | | | | | | | 3,1 | 3,3 | 5 | 3,1 | 3,3 | 3,7 |
| | | | | | | | | | | | | | |
| **Elementos** | | | | | | | | | | | | | |
| Arsénico (As) | mg/kg ms | 30 | 30 | 30 | 10 | 17 | 7 | 5 | 10 | 15 | 9 | 12 | 33 |
| Antimonio (Sb) | mg/kg ms | 30 | 6 | 6 | 1,4 | | | 8 | | | | 13 | 8 |
| Bario (Ba) | mg/kg ms | 1000 | 880 | 500 | 43 | 300 | 190 | 150 | 120 | 220 | 150 | 300 | 270 |
| Berilio (Be) | mg/kg ms | 85 | 40 | 10 | 1,3 | | | | | | | | 1 |
| Cadmio (Cd) | mg/kg ms | 55 | 5 | 1 | 0,3 | 1,1 | 0,3 | 0,3 | 0,7 | 0,4 | 0,5 | 10 | 0,5 |
| Cromo (Cr) | mg/kg ms | 1000 | 1000 | 100 | 20 | 37 | 33 | 38 | 22 | 34 | 18 | 120 | 130 |
| Cobalto (Co) | mg/kg ms | 90 | 45 | 20 | 11 | 10 | 14 | 6 | 5 | 9 | 4 | 8 | 10 |
| Cobre (Cu) | mg/kg ms | 1000 | 310 | 50 | 11 | 71 | 49 | 51 | 40 | 210 | 26 | 410 | 120 |
| Mercurio (Hg) | mg/kg ms | 30 | 3 | 2 | 0,1 | 0,24 | 0,08 | 0,07 | | | | 0,2 | 0,66 |
| Plomo (Pb) | mg/kg ms | 540 | 55 | 55 | 22 | 190 | 43 | 100 | 81 | 85 | 120 | 580 | 200 |
| Molibdeno (Mo) | mg/kg ms | 65 | 7 | 3 | 1,1 | 1,9 | | 1,1 | | 3,5 | 1,2 | 4,9 | 1,3 |
| Níquel (Ni) | mg/kg ms | 1000 | 460 | 45 | 22 | 26 | 77 | 45 | 13 | 60 | 11 | 37 | 24 |
| Selenio (Se) | mg/kg ms | 70 | 7 | 0,7 | 0,4 | | 7 | | | | | | |
| Estaño (Sn) | mg/kg ms | 1000 | 1000 | 50 | 2,8 | | 14 | 18 | | | | 98 | 14 |
| Vanadio (V) | mg/kg ms | 1000 | 190 | 130 | 73 | 49 | 26 | 15 | 30 | 35 | 19 | 32 | 40 |
| Zinc (Zn) | mg/kg ms | 1000 | 640 | 100 | 56 | 410 | 3800 | 1700 | 300 | 410 | 120 | 1500 | 200 |
| Cromo (VI) | mg/kg ms | 20 | 10 | 1 | | | | | | | | 0,18 | 2,5 |
| Talio (Tl) | mg/kg ms | 40 | 4 | 1 | 0,5 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 | <5,0 |
| | | | | | | | | | | | | | |
| **Hidrocarburos Orgánicos Volátiles** | | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | | | | | 1,5 | 0,6 | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | | | | | 2,1 | 0,4 | | |
| o-Xileno | mg/kg ms | | | | | | | | | 0,2 | | | |
| m,p-Xileno | mg/kg ms | | | | | | | 0,4 | | 3,6 | 0,6 | | |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | | | 0,4 | | 3,9 | 0,6 | | |
| Estireno | mg/kg ms | 100 | 100 | 20 | | | | | | | 0,4 | | |
| 1,2,4-Trimetilbenceno | mg/kg ms | | | | | | | 0,4 | | 0,31 | 0,19 | | |
| 1,3,5-Trimetilbenceno | mg/kg ms | | | | | | | 0,19 | | 0,1 | 0,05 | | |
| n-Propilbenceno | mg/kg ms | | | | | | | | | 0,07 | 0,05 | | |
| Isopropilbenceno | mg/kg ms | | | | | | | | | 0,1 | 0,13 | | |
| n-Butilbenceno | mg/kg ms | | | | | | | | | | | | |
| sec-Butilbenceno | mg/kg ms | | | | | | | | | | | | |
| tert-Butibeceno | mg/kg ms | | | | | | | | | | 0,12 | | |
| p-Isopropiltolueno | mg/kg ms | | | | | | | | | 0,48 | 0,11 | | |
| Hexacloroethano | mg/kg ms | 9 | 0,9 | 0,09 | | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 | <0,090 |
| MTBE | mg/kg ms | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Fenoles** | | | | | | | | | | | | | |
| Fenol | mg/kg ms | 100 | 70 | 7 | | | | 0,07 | | 0,06 | | | |
| o-Cresol | mg/kg ms | | | | | | | 0,02 | | 0,02 | | | |
| m-Cresol | mg/kg ms | | | | | | | 0,02 | | 0,1 | | | |
| p-Cresol | mg/kg ms | | | | | | | 0,02 | | 0,19 | 0,04 | | |
| Cresoles (suma) | mg/kg ms | 100 | 40 | 4 | | | | 0,06 | | 0,3 | 0,04 | | |
| 2,4-Dimetilfenol | mg/kg ms | | | | | | | 0,02 | | 0,01 | | | |
| 2,5-Dimetilfenol | mg/kg ms | | | | | | | | | 0,01 | | | |
| 2,6-Dimetilfenol | mg/kg ms | | | | | | | | | | | | |
| 3,4-Dimetilfenol | mg/kg ms | | | | | | | | | | | | |
| o-Etilfenol | mg/kg ms | | | | | | | | | | | | |
| m-Etilfenol | mg/kg ms | | | | | | | | | 0,16 | | | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | mg/kg ms | | | | | | | 0,02 | | 0,14 | | | |
| | | | | | | | | | | | | | |
| **Caracterizacion de aceite** | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | | | | | | | |
| Benceno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | |
| Tolueno | mg/kg ms | 100 | 30 | 3 | | | | | | 2,1 | 0,4 | | |
| Etilbenceno | mg/kg ms | 100 | 20 | 2 | | | | | | 1,5 | 0,6 | | |
| o-Xileno | mg/kg ms | | | | | | | | | 0,2 | | | |
| m,p-Xileno | mg/kg ms | | | | | | | 0,4 | | 3,6 | 0,6 | | |
| Xilenos (sum) | mg/kg ms | 100 | 100 | 35 | | | | 0,4 | | 3,9 | 0,6 | | |
| BTEX (suma) | mg/kg ms | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | | | | | | | | | | | |
| Naftaleno | mg/kg ms | 10 | 8 | 1 | | | | 0,61 | | 0,05 | 0,34 | 0,02 | 0,02 |
| Acenaftileno | mg/kg ms | | | | | | | | | | | | |
| Acenafteno | mg/kg ms | 100 | 60 | 6 | | | | 0,11 | | | | | |
| Fluoreno | mg/kg ms | 100 | 50 | 5 | | | | 0,1 | | 0,02 | | | |
| Fenantreno | mg/kg ms | | | | | 0,06 | 0,02 | 0,36 | 0,02 | 0,07 | 0,01 | 0,02 | 0,1 |
| Antraceno | mg/kg ms | 100 | 100 | 45 | | | | 0,04 | | 0,02 | | | 0,02 |
| Fluoranteno | mg/kg ms | 100 | 80 | 8 | | 0,14 | 0,03 | 0,28 | 0,05 | 0,05 | | 0,03 | 0,22 |
| Pireno | mg/kg ms | 100 | 60 | 6 | | 0,12 | 0,03 | 0,26 | 0,03 | 0,06 | 0,01 | 0,02 | 0,16 |
| Benzo(a)antraceno | mg/kg ms | 20 | 2 | 0,2 | | 0,08 | 0,01 | 0,08 | 0,02 | 0,02 | | 0,01 | 0,11 |
| Criseno | mg/kg ms | 100 | 100 | 20 | | 0,11 | 0,03 | 0,13 | 0,03 | 0,04 | | 0,01 | 0,12 |
| Benzo(b)fluoranteno | mg/kg ms | 20 | 2 | 0,2 | | 0,14 | 0,03 | 0,11 | 0,04 | 0,02 | | 0,01 | 0,23 |
| Benzo(k)fluoranteno | mg/kg ms | 100 | 20 | 2 | | 0,05 | | 0,03 | | | | | 0,2 |
| Benzo(a)pireno | mg/kg ms | 2 | 0,2 | 0,02 | | 0,07 | | 0,04 | 0,01 | 0,02 | | | 0,1 |
| Dibenzo(ah)antraceno | mg/kg ms | 3 | 0,3 | 0,03 | | 0,01 | | | | | | | 0,01 |
| Benzo(ghi)perileno | mg/kg ms | | | | | 0,06 | | 0,02 | 0,01 | | | | 0,07 |
| Indeno(123cd)pireno | mg/kg ms | 30 | 3 | 0,3 | | 0,07 | | 0,02 | 0,01 | | | | 0,06 |
| HAP 10 VROM (suma) | mg/kg ms | | | | | 0,64 | 0,09 | 1,6 | 0,14 | 0,26 | 0,36 | 0,1 | 1 |
| HAP 16 EPA (suma) | mg/kg ms | | | | | 0,92 | 0,15 | 2,2 | 0,21 | 0,37 | 0,37 | 0,13 | 1,4 |
| | | | | | | | | | | | | | |
| **TPH** | | | | | | | | | | | | | |
| TPH C10-C16 | mg/kg ms | | | | | | | 99 | | 32 | 71 | 12 | |
| TPH C16-C22 | mg/kg ms | | | | | | 29 | 96 | | 78 | 140 | 12 | |
| TPH C22-C30 | mg/kg ms | | | | | 26 | 57 | 150 | 29 | 270 | 660 | 46 | |
| TPH C30-C40 | mg/kg ms | | | | | 19 | 32 | 70 | 40 | 200 | 550 | 44 | |
| TPH (suma C10-C40) | mg/kg ms | 50 | 50 | 50 | | 56 | 120 | 420 | 82 | 580 | 1400 | 110 | |
| | | | | | | | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | | | | | | | |
| Diclorometano | mg/kg ms | 60 | 6 | 0,6 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Triclorometano | mg/kg ms | 5 | 3 | 0,7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tetraclorometano | mg/kg ms | 1 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| Tricloroetileno | mg/kg ms | 70 | 7 | 0,7 | | <0,005 | 0,007 | <0,005 | 0,018 | 0,019 | <0,005 | 0,01 | 0,0087 |
| Tetracloroetileno | mg/kg ms | 10 | 1 | 0,1 | | 0,016 | 0,011 | 0,016 | 0,013 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1-Dicloroetano | mg/kg ms | 100 | 70 | 7 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,2-Dicloroetano | mg/kg ms | 5 | 0,5 | 0,05 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,1-Tricloroetano | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| 1,1,2-Tricloroetano | mg/kg ms | 10 | 1 | 0,1 | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,220 | 0,0084 | <0,005 | <0,005 | <0,005 |
| trans 1,2-Dicloroetileno | mg/kg ms | | | | | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 | <0,005 |
| cis+trans 1,2-Dicloroetilenos (suma) | mg/kg ms | 1 | 0,1 | 0,01 | | -- | -- | -- | 0,22 | 0,0084 | -- | -- | -- |
| Tricloroeteno | mg/kg ms | | | | | | | | | | | | |
| Hidrocarburos Clorados (suma) | mg/kg ms | | | | | 0,021 | 0,018 | 0,016 | 0,250 | 0,027 | -- | 0,010 | 0,0087 |
| Cloruro de vinilo | mg/kg ms | 1 | 0,1 | 0,01 | | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 | <0,010 |
| 1,2,3-Tricloropropano | mg/kg ms | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Hidrocarburos clorados polares** | | | | | | | | | | | | | |
| Acetona | mg/kg ms | 100 | 10 | 1 | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Clorobencenos** | | | | | | | | | | | | | |
| Monoclorobenceno | mg/kg ms | 35 | 10 | 1 | | | | | | | 0,01 | | |
| 1,2-Diclorobenceno | mg/kg ms | 100 | 70 | 7 | | | | | | | <0,010 | | |
| 1,3-Diclorobenceno | mg/kg ms | | | | | | | | | | | | |
| 1,4-Diclorobenceno | mg/kg ms | 40 | 4 | 0,4 | | | | 0,02 | | | | | |
| Diclorobencenos (suma) | mg/kg ms | | | | | | | 0,02 | | | 0,01 | | |
| 1,2,3-Triclorobenceno | mg/kg ms | | | | | | | | | | 0,08 | | |
| 1,2,4-Triclorobenceno | mg/kg ms | 90 | 9 | 0,9 | | | | | | 0,02 | 0,06 | | |
| 1,3,5-Triclorobenceno | mg/kg ms | | | | | | | | | | | | |
| Triclorobencenos (suma) | mg/kg ms | | | | | | | | | 0,02 | 0,14 | | |
| 1,2,3,4-Tetraclorobenceno | mg/kg ms | | | | | | | | | | 0,038 | | |
| 1245&1235 Tetraclorobenceno | mg/kg ms | | | | | | | | | | 0,067 | | |
| Tetraclorobencenos (suma) | mg/kg ms | | | | | | | | | | 0,1 | | |
| Pentaclorobenceno (como POC/PC) | mg/kg ms | | | | | | | | | 0,004 | 0,027 | | |
| Hexaclorobenceno | mg/kg ms | | | | | | | | | 0,086 | | | |
| | | | | | | | | | | | | | |
| **Clorofenoles** | | | | | | | | | | | | | |
| o-Clorofenol | mg/kg ms | | | | | | | | | | | | |
| m-Clorofenol | mg/kg ms | | | | | | | | | | | | |
| p-Clorofenol | mg/kg ms | | | | | | | | | | | | |
| Monoclorofenoles (suma) | mg/kg ms | 100 | 10 | 1 | | | | | | | | | |
| 2,4/2,5-Diclorofenol | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | |
| 3,4-Diclorofenol | mg/kg ms | | | | | | | | | | | | |
| 3,5-Diclorofenol | mg/kg ms | | | | | | | | | | | | |
| Diclorofenoles (suma) | mg/kg ms | | | | | | | | | | | | |
| 2,3,5-Triclorofenol | | | | | | | | | | | | | |
| 2,4,5-Triclorofenol | mg/kg ms | 100 | 100 | 10 | | | | | | | | | |
| 2,4,6-Triclorofenol | mg/kg ms | 90 | 9 | 0,9 | | | | | | | 0,003 | | |
| 3,4,5-Triclorofenol | mg/kg ms | | | | | | | | | 0,006 | | | |
| Triclorofenoles (suma) | mg/kg ms | | | | | | | | | 0,006 | 0,003 | | |
| 2,3,4,5-Tetraclorofenol | mg/kg ms | | | | | | | | | | | | |
| 2,3,4,6/2,3,5,6-Tetraclorofenol | | | | | | | | | | | | | |
| Tetraclorofenoles (suma) | mg/kg ms | | | | | | | | | | | | |
| Pentaclorofenol | mg/kg ms | 1 | 0,1 | 0,01 | | 0,017 | | | | 0,004 | 0,009 | | |
| 4-Cloro-3-metilfenol | mg/kg ms | | | | | | | | | 0,002 | | | |
| | | | | | | | | | | | | | |
| **Cloroanilinas** | | | | | | | | | | | | | |
| 2,6-Dicloroanilino | mg/kg ms | | | | | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | 0,01 | <0,010 |
| Dicloroanilinas (suma) | mg/kg ms | | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | | | | | | | | |
| **Bifenilos Policlorados** | | | | | | | | | | | | | |
| PCB 28 | mg/kg ms | | | | | | | 0,006 | | 0,004 | 0,034 | | |
| PCB 52 | mg/kg ms | | | | | | | 0,011 | | | 0,022 | | |
| PCB 101 | mg/kg ms | | | | | 0,003 | | 0,008 | | 0,032 | 0,02 | | |
| PCB 118 | mg/kg ms | | | | | | | 0,006 | | 0,006 | 0,025 | | |
| PCB 138 | mg/kg ms | | | | | 0,007 | | 0,011 | | 0,083 | 0,023 | | |
| PCB 153 | mg/kg ms | | | | | 0,008 | | 0,01 | | 0,11 | 0,032 | | |
| PCB 180 | mg/kg ms | | | | | 0,012 | 0,004 | | | 0,11 | 0,01 | 0,005 | |
| PCB (6) (suma) | mg/kg ms | | | | | 0,03 | 0,004 | 0,046 | | 0,33 | 0,14 | 0,005 | |
| PCB (7) (suma) | mg/kg ms | 0,8 | 0,08 | 0,01 | | 0,03 | 0,004 | 0,052 | | 0,34 | 0,17 | 0,005 | |
| | | | | | | | | | | | | | |
| **Otros CHC clorados** | | | | | | | | | | | | | |
| 1-Cloronaftaleno | mg/kg ms | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Pesticidas Orgánicos clorados** | | | | | | | | | | | | | |
| 4,4 -DDE | mg/kg ms | 60 | 6 | 0,6 | | <0,067 | <0,006 | <0,004 | | <0,017 | | <0,029 | <0,015 |
| 4,4 -DDD/2,4 -DDT | mg/kg ms | | | | | | | | | 0,11 | | 0,014 | 0,017 |
| DDT/DDE/DDD (suma) | mg/kg ms | | | | | 0,075 | 0,006 | 0,004 | | 0,18 | | 0,047 | 0,04 |
| Hexaclorobutadieno | mg/kg ms | 10 | 1 | 0,1 | | | | | | | | | |
| Tedion | mg/kg ms | | | | | | | | | | 0,073 | | |
| | | | | | | | | | | | | | |
| **Otros pesticidas** | | | | | | | | | | | | | |
| Bifentrina | mg/kg ms | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **Varios compuestos orgánicos** | | | | | | | | | | | | | |
| Bifenilo | mg/kg ms | | | | | 0,007 | | 0,096 | | 0,038 | 0,045 | | 0,007 |
| Dibenzofurano | mg/kg ms | | | | | | | 0,05 | | | | | |
| | | | | | | | | | | | | | |
| **Ftalatos** | | | | | | | | | | | | | |
| Dimetilftalato | mg/kg ms | | | | | | | | | | | | |
| Dietilftalato | mg/kg ms | | | | | | | | | | | | |
| Di-isobutilftalato | mg/kg ms | | | | | | | | | 1,6 | 8,3 | | |
| Dibutilftalato | mg/kg ms | | | | | 0,9 | | | | | 0,8 | | |
| Butilbenciftalato | mg/kg ms | | | | | | | | | | | | |
| Ftalato de bisetilhexilo | mg/kg ms | | | | | | | | | 11 | 76 | | |
| Di-n-octilftlato | mg/kg ms | | | | | | | | | | | | |
| Ftalatos (suma) | mg/kg ms | | | | | 0,9 | | | | 13 | 85 | | |

## S9 AGUA SUBTERRÁNEA

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra | | | |
|---|---|---|---|---|---|---|---|
| | | DUTCHLIST | | SP-6 | SP-7 | SP-8 | SP-19 |
| **Características** | | REF. | INT. | MA-06 | MA-07 | MA-08 | MA-19 |
| pH | | | | 7,2 | 7,6 | 7,4 | 7,4 |
| Temperatura de medición pH | °C | | | 18,4 | 18,5 | 18,5 | 19,6 |
| Temperatura de medición (EC) | °C | | | 18,4 | 18,5 | 18,5 | 19,6 |
| Conductividad eléctrica | mS/m | | | 450 | 550 | 660 | 350 |
| Factor de corr. EC-temp. (matemático) | | | | 1,158 | 1,155 | 1,155 | 1,126 |
| Material en suspensión | mg/l | | | | | | |
| Turbidez | NTU | | | | | | |
| DQO No Decantada | mg/L | | | | | | |
| Coliformes Totales | NMP/100ml | | | | | | |
| Escherichia Coli | NMP/100ml | | | | | | |
| | | | | | | | |
| **Elementos** | | | | | | | |
| Antimonio (Sb) | µg/L | 0,15 | 20 | | | | |
| Arsénico (As) | µg/L | 7,2 | 60 | | | | 11 |
| Bario (Ba) | µg/L | 200 | 625 | 32 | 37 | 40 | 150 |
| Berilio (Be) | µg/L | 0,05 | 15 | | | | |
| Cadmio (Cd) | µg/L | 0,06 | 6 | | | | |
| Cromo (Cr) | µg/L | 2,5 | 30 | | | | 0 |
| Cobre (Cu) | µg/L | 1,3 | 75 | 6 | | 5 | 7 |
| Cobalto (Co) | µg/L | 0,7 | 100 | | | | 3 |
| Mercurio (Hg) | µg/L | 0,01 | 0,3 | | | 0,09 | |
| Plomo (Pb) | µg/L | 1,7 | 75 | 320 | 150 | 110 | 8 |
| Molibdeno (Mo) | µg/L | 3,6 | 300 | 8 | 10 | 4 | 5 |
| Manganeso (Mn) | µg/L | | | | | | |
| Níquel (Ni) | µg/L | 2,1 | 75 | 7 | 5 | 7 | 7 |
| Selenio (Se) | µg/L | 0,07 | 160 | 27 | | 12 | |
| Estaño (Sn) | µg/L | 2,2 | 50 | | | | |
| Vanadio (V) | µg/L | 1,2 | 70 | 6 | 4 | 9 | 10 |
| Zinc (Zn) | µg/L | 24 | 800 | 130 | 14 | 46 | 27 |
| Aluminio (Al) | mg/L | | | 0,78 | 0,1 | 0,18 | 0,67 |
| Calcio (Ca) | mg/L | | | 200 | 130 | 210 | 260 |
| Potasio (K) | mg/L | | | 5,3 | 6,8 | 7,4 | 37 |
| Magnesio (Mg) | mg/L | | | 130 | 100 | 190 | 70 |
| Manganeso (Mn) | mg/L | | | 0,17 | 0,07 | 0,057 | 0,86 |
| Sodio (Na) | mg/L | | | 570 | 890 | 910 | 330 |
| RAS (Relación de Adsroción de sodio) | meq/l | | | | | | |
| Boro | µg/L | | | | | | |
| | | | | | | | |
| **Hidrocarburos Monoaromáticos** | | | | | | | |
| Benceno | µg/L | 0,2 | 30 | | | | 0,8 |
| Etilbenceno | µg/L | 4 | 150 | | | | 2 |
| Tolueno | µg/L | 7 | 1000 | 0,2 | | 0,3 | 4,1 |
| o-Xileno | µg/L | | | | | | 0,3 |
| m,p-Xileno | µg/L | | | | | | 3,9 |
| Xilenos (sum) | µg/L | 0,2 | 70 | | | | 4,2 |
| 1,2,4-Trimetilbenceno | µg/L | | | | | | 0,5 |
| 1,3,5-Trimetilbenceno | µg/L | | | | | | |
| n-Propilbenceno | µg/L | | | | | | |
| Isopropilbenceno | µg/L | | | | | | 0,2 |
| p-Isopropiltolueno | µg/L | | | | | | |
| | | | | | | | |
| **Fenoles** | | | | | | | |
| p-Cresol | µg/L | | | | | | |
| Cresoles (suma) | µg/L | 0,2 | 200 | | | | |
| 2,4-Dimetilfenol | µg/L | | | | | | |
| 2,5-Dimetilfenol | µg/L | | | | | | |
| 2,6-Dimetilfenol | µg/L | | | | | | |
| 3,4-Dimetilfenol | µg/L | | | | | | |
| 2,3/3,5-Dimetilfenol + 4-Etilfenol | µg/L | | | | | | |
| Timol | µg/L | | | | | | |
| | | | | | | | |
| **Hidrocarburos clorados Volátiles** | | | | | | | |
| Triclorometano | µg/L | 6 | 400 | | | 0,45 | |
| Tricloroetileno | µg/L | 24 | 500 | | | | 0,14 |
| Tetracloroetileno | µg/L | 0,01 | 40 | 0,3 | | 0,32 | 0,83 |
| Tribromometano | µg/L | | 630 | | | | |
| Bromodiclorometano | µg/L | | | | | | |
| Dibromoclorometano | µg/L | | | | | | |
| Diclorometano | µg/L | 0,01 | 1000 | | | | |
| Cloruro de vinilo | µg/L | 0,01 | 5 | | | | 0,96 |
| trans 1,2-Dichloroetileno | µg/L | | | | | | |
| cis 1,2-Dicloroetileno | µg/L | | | | | | 1,8 |
| 1,1-Dicloroetano | µg/L | 7 | 900 | | | | |
| Dibromometano | µg/L | | | | | | |
| Bromometano | µg/L | | | | | | |
| | | | | | | | |
| **Clorofenoles** | | | | | | | |
| 2,4/2,5-Diclorofenol | µg/L | | | | | | |
| 3,4-Diclorofenol | µg/L | | | | | | |
| 3,5-Diclorofenol | µg/L | | | | | | |
| Diclorofenoles (suma) | µg/L | 0,2 | 30 | | | | |
| 2,4,6-Triclorofenol | µg/L | | | | | | |
| 3,4,5-Triclorofenol | µg/L | | | | | | 0,03 |
| Triclorofenoles (suma) | µg/L | 0,03 | 10 | | | | 0,08 |
| 4-Cloro-3-metilfenol | µg/L | | | | | | |
| | | | | | | | |
| **TPH** | | | | | | | |
| TPH C10-C16 | µg/L | | | | | | 78 |
| TPH C16-C22 | µg/L | | | | | | 98 |
| TPH C22-C30 | µg/L | | | | | | 360 |
| TPH C30-C40 | µg/L | | | | | | 370 |
| TPH (suma C10-C40) | µg/L | 50 | 600 | | | | 900 |
| | | | | | | | |
| **Cloroanilinas** | | | | | | | |
| 2,3-Dicloroanilina | µg/L | | | <0,02 | <0,02 | <0,02 | <0,02 |
| 2,4+2,5-Dicloroanilina | µg/L | | | <0,10 | <0,10 | <0,10 | <0,10 |
| 2,6-Dicloroanilina | µg/L | | | <0,01 | <0,01 | <0,01 | <0,01 |
| 3,5-Dicloroanilina | µg/L | | | <0,2 | <0,2 | <0,2 | <0,2 |
| Dicloroanilinas (suma) | µg/L | | 100 | -- | -- | -- | -- |
| | | | | | | | |
| **Compuestos Inorgánicos** | | | | | | | |
| Alcalinidad compuesto (valor P) | mmol/L | | | <0,10 | <0,10 | <0,10 | <0,10 |
| Alcalinidad total (valor M) | mmol/L | | | 5,3 | 2,1 | 6,4 | 4,6 |
| Amonio como NH4-N | mg N/L | | | 0,11 | 0,34 | 0,16 | 30 |
| Amonio (NH4) | mg/L | | | 0,14 | 0,43 | 0,2 | 38 |
| Cloruro | mg/L | 100 | | 1100 | 1660 | 1850 | 704 |
| Nitrato equivalente NO3-N | mg N/L | | | 2,7 | <0,20 | 0,68 | <0,20 |
| Nitrato (NO3) | mg/L | | | 12 | <0,90 | 3 | <0,90 |
| Nitrito como NO2-N | mg N/L | | | 0,023 | <0,010 | 0,013 | 0,027 |
| Nitrito (NO2) | mg/L | | | 0,076 | <0,030 | 0,043 | 0,089 |
| Sulfato disuelto (SO4) | mg SO4/L | | | 380 | 240 | 480 | 560 |
| Sulfato como (SO4-S) | mg S/L | | | 130 | 81 | 160 | 190 |

## S9 SOIL GAS

| Parámetro | Unidad | Valor de referencia | | PDM/ Muestra/ Profundidad (m) | | | |
|---|---|---|---|---|---|---|---|
| | | TARGET (EPA) | | SG-7 | SG-8 | | |
| | | DEEP | SHALLOW | SG-7 | SG8-10-II | SG8-10-III | SG8-5-I |
| **Hidrocarburos Monoaromáticos** | | | | - | 10,00 | 10,00 | 5,00 |
| Benceno | µg/l | 0,17 | 0,02 | 0,11 | <0,17 | <0,17 | <0,17 |
| Tolueno | µg/l | 26,00 | 2,60 | 3,13 | 0,25 | <0,17 | <0,17 |
| Etilbenceno | µg/l | 100,00 | 10,00 | 0,36 | <0,17 | <0,17 | <0,17 |
| Estireno | µg/l | 26,00 | 2,60 | <0,10 | <0,17 | | |
| n-Propilbenceno | µg/l | 40,00 | 4,00 | <0,10 | <0,17 | | |
| Isopropilbenceno | µg/l | 40,00 | 4,00 | <0,10 | <0,17 | | |
| n-Butilbenceno | µg/l | 27,00 | 2,70 | <0,10 | <0,17 | | |
| iso-Butilbenceno | µg/l | 27,00 | 2,70 | <0,10 | <0,17 | | |
| tert-Butibeceno | µg/l | 27,00 | 2,70 | <0,10 | <0,17 | | |
| sec-Butilbenceno | µg/l | 27,00 | 2,70 | <0,10 | <0,17 | | |
| o-Xileno | µg/l | 70,00 | 7,00 | 0,18 | <0,17 | <0,17 | <0,17 |
| m,p-Xileno | µg/l | 70,00 | 7,00 | 0,58 | <0,17 | <0,17 | <0,17 |
| Xilenos (sum) | µg/l | 10,00 | 1,00 | 0,76 | | - | - |
| 2-Etiltolueno | µg/l | 40,00 | 4,00 | <0,10 | <0,17 | | |
| 3/4-Etiltolueno | µg/l | | | <0,10 | <0,17 | | |
| p-Cimeno | µg/l | 30,00 | 3,00 | <0,10 | <0,17 | | |
| 4-terc-Butiltolueno | µg/l | | | <0,10 | <0,17 | | |
| 1,3-Diisopropilbenceno | µg/l | | | <0,10 | <0,17 | | |
| 1,3,5-Trimetilbenceno | µg/l | 0,60 | 0,06 | <0,10 | <0,17 | | |
| 1,2,4-Trimetilbenceno | µg/l | 0,60 | 0,06 | <0,10 | <0,17 | | |
| 1,2,3,5-Tetrametilbenceno | µg/l | | | <0,10 | <0,17 | | |
| 1,2,4,5-Tetrametilbenceno | µg/l | | | <0,10 | <0,17 | | |
| Naftaleno | µg/l | 0,30 | 0,03 | <0,52 | <0,83 | <0,83 | <0,83 |
| Tetralino | µg/l | | | <0,10 | <0,17 | | |
| BTEXN (suma) | µg/l | | | 4,38 | 0,25 | - | - |
| TPH volátil C6-C8 | µg/l | 40,00 | 4,00 | 12,60 | | - | - |
| TPH volátil C8-C10 | µg/l | 100,00 | 10,00 | <1,05 | | - | - |
| TPH volátil C10-C12 | µg/l | 100,00 | 10,00 | <1,05 | | - | - |
| TPH volátil C12-C14 | µg/l | | | <1,05 | | - | - |
| TPH volátil (suma C6-C14) | µg/l | | | 12,71 | <8,33 | <8,33 | <8,33 |
| **Hidrocarburos clorados Volátiles** | | | | | | | |
| Diclorometano | µg/l | 2,10 | 0,21 | <2,08 | <3,33 | <3,33 | <3,33 |
| Triclorometano | µg/l | 0,04 | 0,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| Tetraclorometano | µg/l | 0,07 | 0,01 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1-Dicloroetano | µg/l | 50,00 | 5,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloroetano | µg/l | 0,04 | 0,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1,1-Tricloroetano | µg/l | 220,00 | 22,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1,2-Tricloroetano | µg/l | 0,06 | 0,01 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | µg/l | 0,14 | 0,01 | <0,52 | <0,83 | <0,83 | <0,83 |
| Tricloroetileno | µg/l | 0,01 | 0,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| Tetracloroetileno | µg/l | 25,00 | 2,50 | <0,52 | <0,83 | <0,83 | <0,83 |
| Monoclorobenceno | µg/l | 5,00 | 0,50 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1-Dicloroetileno | µg/l | 20,00 | 2,00 | <0,52 | <0,83 | <0,83 | <0,83 |
| cis -1,2-Dicloroetileno | µg/l | 79,00 | 7,90 | <0,52 | <0,83 | <0,83 | <0,83 |
| trans -1,2-Dicloroetileno | µg/l | 5,60 | 0,56 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | µg/l | 0,40 | 0,04 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,4-Diclorobutano | µg/l | 0,70 | 0,07 | <0,52 | <0,83 | <0,83 | <0,83 |
| Cloruro de vinilo | µg/l | 1,00 | 0,10 | <2,08 | <3,33 | <3,33 | <3,33 |
| | | | | | | | |
| Alcoholes | µg/l | | | ND | ND | | ND |
| Cetonas | µg/l | | | ND | ND | | ND |
| Esteres | µg/l | | | ND | ND | | ND |

## POUS DE L'ENTORN DE L'ABOCADOR

La següent taula| mostra els resultats de la modelització dels fluxos d'aigües subterrànies i del model de transport per a un temps de 50 anys i en règim estacionari. S'han simulat els 4 diferents escenaris de bombament:

- Pou Granja Rosita amb 105,6 $m^3$/d (Aqüífer B)
- Pou Polígon Industrial amb 48 m3/d ?en l'escina sud-est de l'àrea del model (Acuífero B)
- Pou Viver amb 4,1 $m^3$/d (Aqüífer A)

La taula 1 mostra les concentracions de contaminants que són més grans que $10^{-10}$ µg/l.

Taula 1 Concentracions d'exposició en pous existents de l'entorn de l'abocador

| Compost | Concentración de referncia (New Dutchlist 2000) | | Granja Rosita | Pozo Polígono Industrial | Pozo Vivero |
|---|---|---|---|---|---|
| | Ref | Int | Profundo / Acuífero B | Profundo / Acuífero B | Superficial / Acuífero A |
| | µg/L | µg/L | µg/L | µg/L | µg/L |
| **Metals** | | | | | |
| Antimonio (Sb) | 1,50E-01 | 2,00E+01 | - | - | - |
| Arsénico (As) | 7,20E+00 | 6,00E+01 | - | - | - |
| Bario (Ba) | 2,00E+02 | 6,25E+02 | - | - | - |
| Berilio (Be) | 5,00E-02 | 1,50E+01 | - | - | - |
| Cadmio (Cd) | 6,00E-02 | 6,00E+00 | - | - | - |
| Cromo (Cr) | 2,50E+00 | 3,00E+01 | - | - | - |
| Cobre (Cu) | 1,30E+00 | 7,50E+01 | - | - | 3,80E-08 |
| Cobalto (Co) | 7,00E-01 | 1,00E+02 | - | - | - |
| Mercurio (Hg) | 1,00E-02 | 3,00E-01 | - | - | - |
| Plomo (Pb) | 1,70E+00 | 7,50E+01 | - | - | - |
| Molibdeno (Mo) | 3,60E+00 | 3,00E+02 | - | - | - |
| Manganeso (Mn) | | | - | - | - |
| Níquel (Ni) | 2,10E+00 | 7,50E+01 | - | - | - |
| Selenio (Se) | 7,00E-02 | 1,60E+02 | - | - | - |
| Estaño (Sn) | 2,20E+00 | 5,00E+01 | - | - | - |
| Vanadio (V) | 1,20E+00 | 7,00E+01 | - | - | - |
| Zinc (Zn) | 2,40E+01 | 8,00E+02 | - | - | - |
| Aluminio (Al) | | | - | - | - |
| | | | - | | |
| **Hidrocarburs Monoaromàtics** | | | - | | |
| Benceno | 2,00E-01 | 3,00E+01 | - | - | 5,70E-08 |
| Etilbenceno | 4,00E+00 | 1,50E+02 | - | - | - |

| Compost | Concentración de referncia (New Dutchlist 2000) | | Granja Rosita | Pozo Polígono Industrial | Pozo Vivero |
|---|---|---|---|---|---|
| | Ref | Int | Profundo / Acuífero B | Profundo / Acuífero B | Superficial / Acuífero A |
| | µg/L | µg/L | µg/L | µg/L | µg/L |
| Tolueno | 7,00E+00 | 1,00E+03 | - | - | - |
| o-Xileno | | | - | - | - |
| m,p-Xileno | | | - | - | - |
| Xilenos (sum) | 2,00E-01 | 7,00E+01 | - | - | - |
| | | | | | |
| **Fenols** | | | - | - | - |
| | | | | | |
| **Hidrocarburs clorats Volàtils** | | | - | | |
| Triclorometano | 6,00E+00 | 4,00E+02 | - | - | - |
| Tricloroetileno | 2,40E+01 | 5,00E+02 | - | - | - |
| Tetracloroetileno | 1,00E-02 | 4,00E+01 | - | 2,00E-08 | 1,00E-07 |
| Tribromometano | | 6,30E+02 | - | - | - |
| Bromodiclorometano | | | - | - | - |
| Dibromoclorometano | | | - | - | - |
| Diclorometano | 1,00E-02 | 1,00E+03 | - | - | 1,00E-07 |
| Cloruro de vinilo | 1,00E-02 | 5,00E+00 | 1,70E-07 | - | 5,00E-06 |
| trans 1,2-Dichloroetileno | | | - | - | 1,00E-08 |
| cis 1,2-Dicloroetileno | | | 2,90E-09 | - | 5,00E-07 |
| 1,1-Dicloroetano | 7,00E+00 | 9,00E+02 | - | 1,50E-09 | 5,00E-06 |
| Dibromometano | | | - | - | - |
| Bromometano | | | - | - | 8,00E-06 |
| | | | | | |
| **Hidrocarburos Aromáticos Policíclicos** | | | - | - | - |
| | | | | | |
| **Clorobenzens** | | | | | |
| Monoclorobenceno | 7,00E+00 | 1,80E+02 | - | - | 1,00E-06 |
| 1,2-Diclorobenceno | | | - | - | - |
| 1,3-Diclorobenceno | | | - | - | 1,20E-07 |
| 1,4-Diclorobenceno | | | - | - | 1,00E-08 |
| Diclorobencenos (suma) | 3,00E+00 | 5,00E+01 | - | - | 3,00E-06 |
| 1,2,3-Triclorobenceno | | | - | - | - |
| 1,2,4-Triclorobenceno | | | - | - | - |
| Triclorobencenos (suma) | 1,00E-02 | 1,00E+01 | - | - | - |
| Pentaclorobenceno (como POC/PC) | 3,00E-03 | 1,00E+00 | - | - | - |
| Hexaclorobenceno | 9,00E-05 | 5,00E-01 | - | - | - |
| | | | | | |
| **Clorofenols** | | | | | |
| 2,4/2,5-Diclorofenol | | | - | - | 7,00E-06 |

| Compost | Concentración de referncia (New Dutchlist 2000) | | Granja Rosita | Pozo Polígono Industrial | Pozo Vivero |
|---|---|---|---|---|---|
| | Ref | Int | Profundo / Acuífero B | Profundo / Acuífero B | Superficial / Acuífero A |
| | µg/L | µg/L | µg/L | µg/L | µg/L |
| 3,4-Diclorofenol | | | - | - | - |
| 3,5-Diclorofenol | | | - | - | - |
| Diclorofenoles (suma) | 2,00E-01 | 3,00E+01 | - | - | 7,00E-06 |
| 2,4,6-Triclorofenol | | | - | - | - |
| 3,4,5-Triclorofenol | | | - | - | - |
| Triclorofenoles (suma) | 3,00E-02 | 1,00E+01 | - | - | - |
| 4-Cloro-3-metilfenol | | | - | - | - |
| | | | | | |
| **TPHC10-C40** | 5,00E+01 | 6,00E+02 | - | - | - |

*-, no detectat*

# Annex 3

## Paràmetres d'entrada a l'anàlisi quantitativa de risc i concentracions admissibles obtingudes

| Paràmetre | Receptor residencial | | Referència |
|---|---|---|---|
| | Nen | Adult | |
| Esperança de vida (anys) | 70 | 70 | Valor por defecte |
| Periode d'exposició (anys) | 6 | 30 | Valor por defecte |
| Número d'events interiors (events/any) | 350 | 350 | RD 9/2005 |
| Número d'events exteriors (events/any) | 300 | 300 | ECETOC |
| Número d'events exteriors, caminant (events/any) | 300 | 300 | ECETOC |
| Número d'events exteriors, esport (events/any) | 130 | 208 | CAM, GENCAT |
| Exposició interiors (h/dia) | 17 | 17 | ECETOC-CAM |
| Exposició exteriors - residencial (h/dia) | 7 | 7 | ECETOC-CAM |
| Exposició exteriors - caminant (h/dia) | 4 | 4 | CAM, residencial parc |
| Exposició exteriors - esport (h/dia) | 1.5 | 1.5 | CAM, residencial esport no professional |
| Taxa d'inhalació interiors ($m^3$/h) | 0.4 | 0.55 | ECETOC<br>Exposició llarga durada |
| Taxa d'inhalació exteriors - residencial ($m^3$/h) | 1.0 | 1.0 | ECETOC, activitat lleugera |
| Taxa d'inhalació exteriors – caminant (m3/h) | 2.0 | 2.1 | CAM, activitat moderada |
| Taxa d'inhalació exteriors – esport ($m^3$/h) | 2.4 | 3.9 | CAM, activitat pesada |
| Taxa ingestió accidental de sòl (mg/event) | 300 | 200 | RD 9/2005 |
| Superfície total de pell corporal ($cm^2$) | 9.900 | 23.000 | USEPA, 1997 |
| Fracció de pell exposada (-) | 0,37 | 0,25 | USEPA, 1997 |
| Taxa adherència sòl-pell (mg/$cm^2$*event) | 0,2 | 0,2 | USEPA, 1997 |

*RD 9/2005, Guia d'aplicació tècnica del Reial Decret 9/2005*

*USEPA, 1997. US Environmental Protection Agency Exposure Factors Handbook (1997)*

*Valor per defecte: valors genèrics definits en les metodologies desenvolupades (ASTM i USEPA)*

*ECETOC, Exposure Factors Sourcebook for Eurpean Populations (with Focus on UK data). Tech Repoet No 79*

*CAM, Guia d'Anàlisi de Riscos per a la salut humana i ecosistemes. Comunitat de Madrid*

| Paràmetro | Receptor comercial | Referència |
|---|---|---|
| | Adult | |
| Esperança de vida (anys) | 70 | Valor por defecte |
| Període d'exposició (anys) | 25 | Valor por defecte |
| Número d'events interiors (events/any) | 230 | Calendari laboral |
| Número d'events exteriors (events/any) | 230 | Calendari laboral |
| Exposició interiors (h/dia) | 8 | Jornada laboral |
| Exposició exteriors (h/dia) | 8 | Jornada laboral |
| Taxa d'inhalació interiors ($m^3$/h) | 2.1 | CAM, activitat moderada |
| Taxa d'inhalació exteriors ($m^3$/h) | 2.1 | CAM, activitat moderada |

*RD 9/2005, Guia d'aplicació tècnica del Reial Decret 9/2005*

*USEPA, 1997. US Environmental Protection Agency Exposure Factors Handbook (1997)*

*Valor per defecte: valors genèrics definits en les metodologies desenvolupades (ASTM i USEPA)*

*ECETOC, Exposure Factors Sourcebook for Eurpean Populations (with Focus on UK data). Tech Repoet No 79*

*CAM, Guia d'Anàlisi de Riscos per a la salut humana i ecosistemes. Comunitat de Madrid*

| Paràmetre | Valor | Referència |
|---|---|---|
| Superficie total (m2) | | |
| Sector 1 | 24.878 | Sector de risc potencial definit |
| Sector 2 | 15.438 | Sector de risc potencial definit |
| Sector 3 | 11.304 | Sector de risc potencial definit |
| Sector 4 | 15.093 | Sector de risc potencial definit |
| Sector 5 | 6.328 | Sector de risc potencial definit |
| Sector 6 | 21.400 | Sector de risc potencial definit |
| Sector 7 | 21.760 | Sector de risc potencial definit |
| Sector 8 | 15.631 | Sector de risc potencial definit |
| Sector 9 | 58.097 | Sector de risc potencial definit |
| Superficie edifici representatiu (m2) | | |
| Sector 1 | 2.799 | Projecte urbanístic |
| Sector 2 | 2.834 | Projecte urbanístic |
| Sector 3 | A) 795<br>B) 2.310 | Projecte urbanístic |
| Sector 4 | 2.982 | Projecte urbanístic |
| Sector 5 | 3.900 | Projecte urbanístic |
| Sector 6 | Res: 3.191<br>Guarderia: 700 | Projecte urbanístic |
| Sector 7 | -- | Projecte urbanístic |
| Sector 8 | 6.150 | Projecte urbanístic |
| Sector 9 | Cult: 4.030, San: 5.478 | Projecte urbanístic |
| Altura planta habitatge (m) | 2.6 | Projecte urbanístic |
| Altura planta comercial (m) | 3.7 | Projecte urbanístic |
| Altura garatge habitatge (m) | 2.5 | Projecte urbanístic |
| Altura garatge comercial (m) | 3.7 | Projecte urbanístic |
| Espessor ciments (cm) | 30 | Valor estimat (conservador) |
| Contingut en humitat ciments | 0 | ASTM, USEPA (J&E) (conservador) |
| Taxa intercanvi aire en habitatge (1/dia) | 12 | ASTM valor per defecte |
| Taxa intercanvi aire en local comercial (1/dia) | 20 | ASTM valor per defecte |
| | 30 | Projecte constructiu |

| Paràmetro | Valor | Referència |
|---|---|---|
| Espesor estrat rebliments (m) | | |
| Sector 1 | 1 (+3 /-5) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 2 | 20 (+1.2/-3) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 3 | - | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 4 | 23 (+2/-4.1) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 5 | 23 (+0/-2.2) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 6 | 9 (+3.8/-2.9) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 7 | 37 (-) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 8 | 24 (+3.9/-1.0) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Sector 9 | 34 (-) | Topografia actual/vas abocador<br>Correcció pla urbanístic |
| Superficie edifici representatiu (m2) | | |
| Sector 1 | 2.799 | Projecte urbanístic |
| Sector 2 | 2.834 | Projecte urbanístic |
| Sector 3 | A) 795<br>B) 2.310 | Projecte urbanístic |
| Sector 4 | 2.982 | Projecte urbanístic |
| Sector 5 | 3.900 | Projecte urbanístic |
| Sector 6 | Res: 3.191<br>Guardería: 700 | Projecte urbanístic |
| Sector 7 | -- | Projecte urbanístic |
| Sector 8 | 6.150 | Projecte urbanístic |
| Sector 9 | Cult: 4.030<br>San: 5.478 | Projecte urbanístic |
| Altura planta habitatge (m) | 2.6 | Projecte urbanístic |
| Altura planta comercial (m) | 3.7 | Projecte urbanístic |
| Altura garatge habitatge (m) | 2.5 | Projecte urbanístic |
| Altura garatge comercial (m) | 3.7 | Projecte urbanístic |
| Espessor ciments (cm) | 30 | Valor estimat (conservador) |

| Paràmetro | Valor | Referència |
|---|---|---|
| Contingut en humitat ciments | 0 | ASTM, USEPA (J&E) (conservador) |
| Taxa intercanvi aire en habitatge (1/dia) | 12 | ASTM valor per defecte |
| Taxa intercanvi aire en local comercial (1/dia) | 20 | ASTM valor per defecte |
| | 30 | Projecte constructiu |

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | Diffusion Coefficients in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) | partition | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene ** | 83-32-9 | PAH | 154.21 | 4 | 4.21E-02 | 4 | 7.69E-06 | 4 | 3.85 | Koc | 4 | 9.77E-05 | 4.03E-03 | 39 | 2.15E-03 | SR | 3.93E+00 | 29 | - | - | - |
| Acenaphthylene ** | 208-96-8 | PAH | 152.21 | 4 | 4.39E-02 | 4 | 7.53E-06 | 4 | 4.00 | Koc | 4 | 1.14E-04 | 4.70E-03 | 4 | 8.51E-10 | 4 | 3.93E+00 | 29 | - | - | - |
| Anthracene ** | 120-12-7 | PAH | 178.23 | 4 | 3.24E-02 | 4 | 7.74E-06 | 4 | 4.15 | Koc | 4 | 6.75E-02 | 2.78E+00 | 4 | 6.53E-06 | 4 | 4.50E-02 | 5 | - | - | - |
| Benzene ** | 71-43-2 | A | 78.1 | PS | 8.80E-02 | PS | 9.80E-06 | PS | 1.77 | Koc | PS | 5.55E-03 | 2.29E-01 | PS | 9.52E+01 | PS | 1.75E+03 | PS | - | - | - |
| Benzo(a)Anthracene ** | 56-55-3 | PAH | 228.3 | 4 | 5.10E-02 | 4 | 9.00E-06 | 4 | 5.60 | Koc | 30 | 1.74E-06 | 7.18E-05 | 4 | 2.10E-07 | 4 | 5.70E-03 | 5 | - | - | - |
| Benzo(a)Pyrene ** | 50-32-8 | PAH | 252.3 | PS | 4.30E-02 | PS | 9.00E-06 | PS | 6.01 | Koc | PS | 1.13E-06 | 4.66E-05 | PS | 5.50E-09 | PS | 1.62E-03 | PS | - | - | - |
| Benzo(b)Fluoranthene ** | 205-99-2 | PAH | 252 | 5 | 2.26E-02 | 6 | 5.56E-06 | 7 | 6.12 | Koc | 30 | 5.33E-05 | 2.20E-03 | 39 | 5.00E-07 | SR | 1.47E-02 | 25 | - | - | - |
| Benzo(g,h,i)Perylene ** | 191-24-2 | PAH | 276 | 5 | 4.90E-02 | 6 | 5.65E-05 | 7 | 6.20 | Koc | 11 | 1.41E-07 | 5.82E-06 | TE | 1.00E-10 | 10 | 2.60E-04 | SR | - | - | - |
| Benzo(k)Fluoranthene ** | 207-08-9 | PAH | 252.32 | 4 | 2.26E-02 | 4 | 5.56E-06 | 4 | 6.10 | Koc | 30 | 3.88E-07 | 1.60E-05 | 4 | 9.59E-10 | 4 | 8.00E-04 | 30 | - | - | - |
| Dibenzo(a,h)Anthracene ** | 53-70-3 | PAH | 278.35 | 4 | 2.00E-02 | 4 | 5.24E-06 | 4 | 6.60 | Koc | 30 | 1.46E-08 | 6.03E-07 | 30 | 9.50E-10 | 4 | 5.00E-04 | 4 | - | - | - |
| Fluoranthene *** | 206-44-0 | PAH | 202 | 4 | 3.02E-02 | 4 | 6.35E-06 | 4 | 5.04 | Koc | 30 | 1.60E-05 | 6.60E-04 | 30 | 9.20E-06 | SR | 2.06E-01 | 30 | - | - | - |
| Ethylbenzene ** | 100-41-4 | A | 106.2 | PS | 7.50E-02 | PS | 7.80E-06 | PS | 2.56 | Koc | PS | 7.88E-03 | 3.25E-01 | 30 | 9.60E+00 | SR | 1.69E+02 | PS | - | - | - |
| Fluorene ** | 86-73-7 | PAH | 166 | 4 | 3.63E-02 | 4 | 7.88E-06 | 4 | 4.00 | Koc | 4 | 6.30E-05 | 2.60E-03 | 30 | 6.00E-04 | SR | 1.98E+00 | 30 | - | - | - |
| Indeno(1,2,3,c,d)Pyrene ** | 193-39-5 | PAH | 276.34 | 4 | 2.33E-02 | 4 | 4.41E-06 | 4 | 6.50 | Koc | TE | 6.91E-07 | 2.85E-05 | 39 | 1.40E-10 | TE | 3.75E-03 | TE | - | - | - |
| Naphthalene ** | 91-20-3 | PAH | 128.2 | PS | 5.90E-02 | PS | 7.50E-06 | PS | 3.30 | Koc | PS | 4.83E-04 | 1.99E-02 | 30 | 8.50E-02 | 30 | 3.10E+01 | PS | - | - | - |
| Phenanthrene ** | 85-01-8 | PAH | 178.22 | 4 | 3.33E-02 | 4 | 7.47E-06 | 4 | 4.15 | Koc | 4 | 4.12E-05 | 1.70E-03 | 39 | 1.20E-04 | SR | 1.15E+00 | SR | - | - | - |
| Pyrene ** | 129-00-0 | PAH | 202.3 | 4 | 2.72E-02 | 4 | 7.24E-06 | 4 | 5.04 | Koc | 30 | 1.09E-05 | 4.50E-04 | 30 | 4.20E-08 | 4 | 1.35E-01 | 30 | - | - | - |
| Styrene ** | 100-42-5 | A | 104.2 | 4 | 7.10E-02 | 4 | 8.00E-06 | 4 | 2.80 | Koc | 30 | 2.76E-03 | 1.14E-01 | 30 | 6.40E+00 | SR | 3.10E+02 | 30 | - | - | - |
| Toluene* | 108-88-3 | A | 92.4 | 5 | 8.50E-02 | A | 9.40E-06 | A | 2.13 | Koc | A | 6.30E-03 | 2.60E-01 | A | 3.00E+01 | 4 | 5.15E+02 | 29 | - | - | - |
| Xylene (mixed isomers) ** | 1330-20-7 | A | 106.2 | 5 | 7.20E-02 | A | 8.50E-06 | A | 2.38 | Koc | A | 7.03E-03 | 2.90E-01 | A | 7.00E+00 | 4 | 1.98E+02 | 5 | - | - | - |

* = Chemical with user-specified data

Site Name: Can Planas

Completed By: IDOM

Job ID: 13506

Site Location: Residencial interior/Sector 4/PAH, BTEX

Date Completed: 17-jun-yy

## CHEMICAL DATA FOR SELECTED COCs

**Toxicity Data**

| Constituent | Reference Dose (mg/kg/day) Oral RfD_oral | ref | Reference Dose (mg/kg/day) Dermal RfD_dermal | ref | Reference Conc. (mg/m3) Inhalation RfC_inhal | ref | Slope Factors 1/(mg/kg/day) Oral SF_oral | ref | Slope Factors 1/(mg/kg/day) Dermal SF_dermal | ref | Unit Risk Factor 1/(µg/m3) Inhalation URF_inhal | ref | EPA Weight of Evidence | Is Constituent Carcinogenic ? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene ** | 6.00E-02 | I | 6.00E-02 | 0.06 | 2.10E-01 | 96 | - | - | - | - | - | - | - | FALSE |
| Acenaphthylene ** | 6.00E-02 | T | 6.00E-02 | 0.06 | - | - | - | - | - | - | - | - | D | FALSE |
| Anthracene ** | 3.00E-01 | A | 3.00E-01 | 0.3 | - | - | - | - | - | - | - | - | D | FALSE |
| Benzene ** | - | - | - | - | - | - | 3.00E-02 | W | 3.00E-02 | re | 5.86E-06 | W | A | TRUE |
| Benzo(a)Anthracene ** | - | - | - | - | - | - | 7.30E-01 | R | 7.30E-01 | re | 1.10E-04 | CE | B2 | TRUE |
| Benzo(a)Pyrene ** | - | - | - | - | - | - | 2.33E+00 | W | 2.33E+00 | re | 8.33E-02 | W | B2 | TRUE |
| Benzo(b)Fluoranthene ** | - | - | - | - | - | - | 7.30E-01 | N | 7.30E-01 | re | 1.10E-04 | CE | B2 | TRUE |
| Benzo(g,h,i)Perylene ** | 3.00E-02 | RI | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | D | FALSE |
| Benzo(k)Fluoranthene ** | - | - | - | - | - | - | 7.30E-02 | N | 7.30E-02 | re | 1.10E-04 | N | B2 | TRUE |
| Dibenzo(a,h)Anthracene ** | - | - | - | - | - | - | 7.30E+00 | 93 | 7.30E+00 | re | 8.80E-04 | 93 | B2 | TRUE |
| Fluoranthene *** | 4.00E-02 | I | 4.00E-02 | 0.04 | - | - | - | - | - | - | - | - | D | FALSE |
| Ethylbenzene ** | 9.70E-02 | W | 9.70E-02 | 0.1 | 1.00E+00 | I | - | - | - | - | - | - | D | FALSE |
| Fluorene ** | 4.00E-02 | I | 4.00E-02 | 0.04 | - | - | - | - | - | - | - | - | D | FALSE |
| Indeno(1,2,3,c,d)Pyrene ** | - | - | - | - | - | - | 7.30E-01 | N | 7.30E-01 | re | 1.10E-04 | CE | B2 | TRUE |
| Naphthalene ** | 2.00E-02 | I | 2.00E-02 | 0.02 | 3.00E-03 | I | - | - | - | - | - | - | C | FALSE |
| Phenanthrene ** | 3.00E-02 | T | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | D | FALSE |
| Pyrene ** | 3.00E-02 | I | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | D | FALSE |
| Styrene ** | 7.70E-03 | W | 7.70E-03 | 0.01 | 2.60E-01 | W | - | - | - | - | - | - | - | FALSE |
| Toluene* | 2.23E-01 | W | 2.23E-01 | 0.22 | 2.60E-01 | W | - | - | - | - | - | - | D | FALSE |
| Xylene (mixed isomers) ** | 1.79E-01 | W | 1.79E-01 | 0.18 | 1.00E-01 | I | - | - | - | - | - | - | D | FALSE |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Residencial int

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Acenaphthene ** | - | - | - | - | - | - | 384 |
| Acenaphthylene ** | - | - | - | - | - | - | 1 |
| Anthracene ** | - | - | - | - | - | - | 917 |
| Benzene ** | 5.00E-03 | - | 3.25E+00 | - | - | - | 12.6 |
| Benzo(a)Anthracene ** | - | - | - | ACGIH | - | - | 10100 |
| Benzo(a)Pyrene ** | 2.00E-04 | - | 2.00E-01 | - | - | - | 1 |
| Benzo(b)Fluoranthene ** | - | - | - | ACGIH | - | - | 1 |
| Benzo(g,h,i)Perylene ** | - | - | - | - | - | - | 1 |
| Benzo(k)Fluoranthene ** | - | - | - | - | - | - | 1 |
| Dibenzo(a,h)Anthracene ** | - | - | - | - | - | - | 1 |
| Fluoranthene *** | - | - | - | - | - | - | 1 |
| Ethylbenzene ** | 7.00E-01 | - | 4.35E+02 | - | - | - | 1 |
| Fluorene ** | - | - | - | - | - | - | 1300 |
| Indeno(1,2,3,c,d)Pyrene ** | - | - | - | - | - | - | 1 |
| Naphthalene ** | - | - | 5.00E+01 | - | - | - | 430 |
| Phenanthrene ** | - | - | - | - | - | - | 2630 |
| Pyrene ** | - | - | - | - | - | - | 2700 |
| Styrene ** | 1.00E-01 | - | 2.13E+02 | ACGIH | - | - | 1 |
| Toluene* | 1.00E+00 | - | 1.47E+02 | ACGIH | - | - | 70 |
| Xylene (mixed isomers) ** | 1.00E+01 | - | 4.34E+02 | ACGIH | - | - | 1 |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Residencial int

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acenaphthene ** | 0.05 | 0.122 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 204 | 204 | H |
| Acenaphthylene ** | 0.1 | 0.125 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 120 | 120 | H |
| Anthracene ** | 0.05 | 0.15 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 920 | 920 | H |
| Benzene ** | 0.5 | 0.011 | 0.26 | 0.63 | 0.013 | 3.8E-2 | D | 0.002 | S | 0.005 | S | 720 | 720 | H |
| Benzo(a)Anthracene ** | 0.05 | 0.81 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 1360 | 1360 | H |
| Benzo(a)Pyrene ** | 0.05 | 1.12 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 1060 | 1060 | H |
| Benzo(b)Fluoranthene ** | 0.05 | 1.16 | 2.2 | 10 | 46 | 8.2E+0 | D | 0.01 | 32 | 0.66 | 32 | 1220 | 1220 | H |
| Benzo(g,h,i)Perylene ** | 0.05 | 0.94 | 2.9 | 14 | 130 | 7.7E+0 | D | 0.01 | 32 | 0.66 | 32 | 1300 | 1300 | H |
| Benzo(k)Fluoranthene ** | 0.05 | 1.12 | 3 | 14 | 130 | 9.3E+0 | D | 0.01 | 32 | 0.66 | 32 | 4280 | 4280 | H |
| Dibenzo(a,h)Anthracene ** | 0.05 | 1.76 | 4.4 | 21 | 690 | 1.8E+1 | D | 0.01 | 32 | 0.66 | 32 | 1880 | 1880 | H |
| Fluoranthene *** | 0.05 | 0.4 | 1.5 | 7.3 | 8.9 | 2.3E+0 | D | 0.01 | 32 | 0.66 | 32 | 880 | 880 | H |
| Ethylbenzene ** | 0.5 | 0.027 | 0.39 | 1.3 | 0.14 | 9.7E-2 | D | 0.002 | S | 0.005 | S | 228 | 228 | H |
| Fluorene ** | 0.05 | 0.12 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 120 | 120 | H |
| Indeno(1,2,3,c,d)Pyrene ** | 0.05 | 1.54 | 4.2 | 20 | 380 | 1.5E+1 | D | 0.01 | 32 | 0.66 | 32 | 1460 | 1460 | H |
| Naphthalene ** | 0.05 | 0.069 | 0.53 | 2.2 | 0.2 | 2.7E-1 | D | 0.01 | 32 | 0.01 | 32 | 258 | 258 | H |
| Phenanthrene ** | 0.05 | 0.13 | 1.1 | 5.6 | 2.9 | 6.5E-1 | D | 0.01 | 32 | 0.66 | 32 | 400 | 400 | H |
| Pyrene ** | 0.05 | 0.4 | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 3800 | 3800 | H |
| Styrene ** | 0.5 | 0.041 | 0.38 | 0.91 | 0.089 | 1.5E-1 | D | 0.001 | S | 0.005 | S | 210 | 210 | H |
| Toluene* | 0.5 | 0.045 | 0.32 | 0.77 | 0.054 | 1.6E-1 | D | 0.002 | S | 0.005 | S | 28 | 28 | H |
| Xylene (mixed isomers) ** | 0.5 | 0.0894 | 0.39 | 1.4 | 0.16 | 3.2E-1 | D | 0.005 | S | 0.005 | S | 360 | 360 | H |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Residencial int

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | Diffusion Coefficients in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) partition | | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene* | 108-86-1 | - | 157 | TE | 7.05E-02 | TE | 8.54E-06 | TE | 2.38 | Koc | TE | 2.03E-03 | 8.38E-02 | TE | 2.91E+00 | TE | 2.98E+02 | TE | - | - | - |
| Bromodichloromethane ** | 75-27-4 | C | 163.8 | 4 | 2.98E-02 | 4 | 1.06E-05 | 4 | 1.85 | Koc | 4 | 2.05E-01 | 8.45E+00 | 4 | 5.92E+01 | 4 | 6.22E+01 | 4 | - | - | - |
| Butylbenzene, n-* | 104-51-8 | O | 134 | TE | 5.70E-02 | TE | 6.74E-06 | TE | 3.48 | Koc | TE | 1.35E-02 | 5.57E-01 | TE | 8.14E-01 | TE | 1.08E+01 | TE | - | - | - |
| Butylbenzene, sec-* | 135-98-8 | O | 134 | TE | 5.75E-02 | TE | 6.75E-06 | TE | 3.32 | Koc | TE | 1.23E-02 | 5.07E-01 | TE | 1.25E+00 | TE | 1.81E+01 | TE | - | - | - |
| Butylbenzene, tert-* | 98-06-6 | O | 134 | TE | 5.84E-02 | TE | 6.76E-06 | TE | 3.39 | Koc | TE | 2.08E-02 | 8.56E-01 | TE | 1.76E+00 | TE | 1.51E+01 | TE | - | - | - |
| carbon tetrachloride (Tetrachlor | 56-23-5 | - | 154 | TE | 7.80E-02 | TE | 8.80E-06 | TE | 2.24 | Koc | TE | 2.91E-02 | 1.20E+00 | TE | 1.12E+02 | TE | 8.05E+02 | TE | - | - | - |
| Chlorobenzene ** | 108-90-7 | AC | 112.6 | PS | 7.30E-02 | PS | 8.70E-06 | PS | 2.34 | Koc | PS | 3.70E-03 | 1.53E-01 | PS | 1.18E+01 | PS | 4.72E+02 | PS | - | - | - |
| Chloroethane ** | 75-00-3 | C | 64.52 | 4 | 1.50E-01 | 4 | 1.18E-05 | 4 | 1.25 | Koc | 4 | 5.10E-03 | 2.10E-01 | 4 | 1.20E+03 | 4 | 2.00E+04 | 4 | - | - | - |
| Chloroform* | 67-66-3 | C | 119.4 | 4 | 1.04E-01 | 4 | 1.00E-05 | 4 | 1.93 | Koc | 4 | 2.96E-03 | 1.22E-01 | 39 | 1.97E+02 | SR | 7.95E+03 | 4 | - | - | - |
| Chloromethane ** | 74-87-3 | C | 51 | 5 | 1.28E-01 | 4 | 1.68E-04 | 7 | 1.15 | Koc | 39 | 8.82E-03 | 3.64E-01 | 29 | 3.80E+03 | 5 | 7.25E+03 | TE | - | - | - |
| Chlorophenol, 2- ** | 95-57-8 | C | 128.6 | PS | 5.01E-02 | PS | 9.46E-06 | PS | 2.59 | Koc | PS | 3.91E-04 | 1.57E-02 | PS | 1.40E+00 | PS | 2.20E+04 | PS | 8.4 | - | PS |
| Chlorophenol, 3- ** | 108-43-0 | - | 129 | TE | 7.13E-02 | TE | 8.74E-06 | TE | 2.05 | Koc | TE | 2.23E-07 | 9.20E-06 | TE | 5.38E-02 | TE | 4.11E+04 | TE | - | - | - |
| Chlorophenol, 4- ** | 106-48-9 | - | 129 | TE | 7.13E-02 | TE | 8.75E-06 | TE | 2.09 | Koc | TE | 2.42E-07 | 9.97E-06 | TE | 4.06E-02 | TE | 2.86E+04 | TE | - | - | - |
| Chlorpyrifos ** | 2921-88-2 | - | 351 | TE | 4.85E-02 | TE | 5.11E-06 | TE | 3.70 | Koc | TE | 4.19E-06 | 1.73E-04 | TE | 1.87E-05 | TE | 9.00E-01 | TE | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 95-50-1 | AC | 147 | 4 | 6.90E-02 | 4 | 7.90E-06 | 4 | 3.28 | Koc | 4 | 1.36E-03 | 5.61E-02 | 4 | 1.50E+00 | 4 | 1.50E+02 | 4 | - | - | - |
| Dichlorobenzene, (1,3) (-m) ** | 541-73-1 | AC | 147 | 4 | 6.88E-02 | TX | 7.90E-06 | 4 | 3.23 | Koc | TX | 2.06E-03 | 8.50E-02 | TX | 3.90E+00 | 29 | 1.23E+02 | TX | - | - | - |
| Dichlorobenzene, (1,4) (-p) ** | 106-46-7 | AC | 147 | 4 | 6.90E-02 | 4 | 7.90E-06 | 4 | 2.80 | Koc | 4 | 1.77E-03 | 7.28E-02 | 4 | 1.20E+00 | 4 | 1.45E+02 | 4 | - | - | - |
| Dichloroethane, 1,1- ** | 75-34-3 | C | 98.96 | 4 | 7.42E-02 | 4 | 1.05E-05 | 4 | 1.49 | Koc | TE | 4.56E-03 | 1.88E-01 | 39 | 2.27E+02 | 4 | 5.50E+03 | 5 | - | - | - |
| Dichloroethane, 1,2- ** | 107-06-2 | C | 99 | 4 | 1.04E-01 | 4 | 9.90E-06 | 4 | 1.76 | Koc | 4 | 7.71E-04 | 3.18E-02 | 39 | 8.00E+01 | 4 | 8.69E+03 | 5 | - | - | - |
| Dichloroethene, cis-1,2- ** | 156-59-2 | C | 96.936 | 4 | 7.36E-02 | 4 | 1.13E-05 | 4 | 1.46 | Koc | TE | 3.27E-03 | 1.35E-01 | 4 | 2.00E+02 | 5 | 4.93E+03 | 30 | - | - | - |
| Dichloroethene,1,2-trans- * * | 156-60-5 | C | 96.936 | 4 | 7.07E-02 | 4 | 1.19E-05 | 4 | 1.64 | Koc | 39 | 7.71E-03 | 3.18E-01 | 39 | 3.31E+02 | 4 | 6.30E+03 | 30 | - | - | - |
| Dimethyl phenol, 2,4-* | 105-67-9 | - | 122 | TE | 5.84E-02 | TE | 8.69E-06 | TE | 2.07 | Koc | TE | 2.01E-06 | 8.31E-05 | TE | 1.26E-01 | TE | 6.20E+03 | TE | - | - | - |
| Hexachlorobenzene ** | 118-74-1 | - | 284.78 | 29 | 5.42E-02 | 31 | 5.91E-06 | 31 | 4.45 | Koc | 29 | 1.50E-03 | 6.19E-02 | 29 | 1.23E-05 | 31 | 6.00E-03 | 31 | - | - | - |
| Hexachloroethane* | 67-72-1 | - | 237 | TE | 2.50E-03 | TE | 6.80E-06 | TE | 3.26 | Koc | TE | 3.93E-03 | 1.62E-01 | TE | 4.72E-01 | TE | 5.00E+01 | TE | - | - | - |
| Pentachlorobenzene* | 608-93-5 | - | 250 | TE | 6.70E-02 | TE | 6.30E-06 | TE | 4.50 | Koc | TE | 7.66E-04 | 3.16E-02 | TE | 1.67E-03 | TE | 6.50E-01 | TE | - | - | - |
| Penthachlorophenol* | 87-86-5 | - | 266 | TE | 5.60E-02 | TE | 6.10E-06 | TE | 2.61 | Kd | TE | 2.81E-07 | 1.16E-05 | TE | 1.70E-05 | TE | 1.40E+01 | TE | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | 634-66-2 | - | 216 | TE | 5.72E-02 | TE | 7.31E-06 | TE | 4.61 | Koc | TE | 7.32E-04 | 3.02E-02 | TE | 1.64E-02 | TE | 6.43E+00 | TE | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | 634-90-2 | O | 216 | - | 5.75E-02 | - | 7.31E-06 | - | 3.80 | Koc | TE | 5.84E-04 | 2.41E-02 | - | 1.06E-02 | - | 5.18E+00 | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | 95-94-3 | - | 216 | - | 2.11E-02 | - | 8.80E-06 | - | 3.20 | Koc | - | 1.21E-03 | 4.99E-02 | - | 5.40E-03 | - | 3.00E-01 | - | - | - | - |
| Tetrachloroethylene (perchloroe | 127-18-4 | - | 165.8 | - | 7.20E-02 | - | 8.20E-06 | - | 2.19 | Koc | - | 1.40E-02 | 5.79E-01 | - | 1.90E+01 | - | 2.00E+02 | - | - | - | - |
| Trichloroethylene (TCE)* | 79-01-6 | O | 131.4 | - | 7.90E-02 | - | 9.10E-06 | - | 2.19 | Koc | - | 8.12E-03 | 3.35E-01 | - | 6.90E+01 | - | 1.10E+03 | - | - | - | - |
| Trimethylbenzene,1,2,4-* | 95-63-6 | - | 120 | TE | 6.22E-02 | TE | 7.28E-06 | TE | 2.97 | Koc | TE | 4.46E-03 | 1.84E-01 | TE | 1.59E+00 | TE | 5.68E+01 | TE | - | - | - |
| Trimethylbenzene,1,3,5- ** | 108-67-8 | O | 120 | TE | 6.21E-02 | TE | 7.23E-06 | TE | 3.01 | Koc | TE | 6.60E-03 | 2.72E-01 | TE | 2.13E+00 | TE | 5.15E+01 | TE | - | - | - |
| Trichlorobenzene, 1,2,3-* | 87-61-6 | O | 181 | - | 6.20E-02 | TE | 7.71E-06 | TE | 3.95 | Koc | TE | 9.21E-04 | 3.80E-02 | - | 6.30E-02 | - | 1.64E+01 | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 120-82-1 | AC | 181.5 | 4 | 3.00E-02 | 4 | 8.23E-06 | 4 | 3.91 | Koc | 4 | 9.75E-04 | 4.02E-02 | 4 | 1.80E-01 | 4 | 3.03E+01 | 4 | - | - | - |
| Trichlorobenzene, 1,3,5-* | 108-70-3 | O | 181.4 | TE | 6.25E-02 | - | 7.66E-06 | - | 3.40 | Koc | - | 1.46E-03 | 6.03E-02 | - | 1.11E-01 | - | 1.82E+01 | - | - | - | - |
| Trichlorophenol,2,3,5-* | 933-78-8 | - | 197 | TE | 6.10E-02 | TE | 7.71E-06 | TE | 2.37 | Koc | TE | 9.58E-08 | 3.95E-06 | TE | 1.37E-03 | TE | 3.74E+03 | TE | - | - | - |
| Trichlorophenol,2,4,5-* | 95-95-4 | - | 197 | TE | 2.91E-02 | TE | 7.03E-06 | TE | 2.47 | Koc | TE | 4.32E-06 | 1.78E-04 | TE | 1.63E-02 | TE | 1.20E+03 | TE | - | - | - |
| Triclorophenol,2,4,6-* | 88-06-2 | - | 197 | TE | 3.18E-02 | TE | 6.25E-06 | TE | 2.12 | Koc | TE | 7.74E-06 | 3.19E-04 | TE | 1.18E-02 | TE | 9.82E+02 | TE | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | 4901-51-3 | - | 232 | TE | 5.65E-02 | TE | 7.32E-06 | TE | 2.66 | Koc | TE | 4.80E-08 | 1.98E-06 | TE | 4.62E-05 | TE | 2.96E+02 | TE | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | Diffusion Coefficients in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) partition | | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene* | 108-86-1 | - | 157 | TE | 7.05E-02 | TE | 8.54E-06 | TE | 2.38 | Koc | TE | 2.03E-03 | 8.38E-02 | TE | 2.91E+00 | TE | 2.98E+02 | TE | - | - | - |
| Bromodichloromethane ** | 75-27-4 | C | 163.8 | 4 | 2.98E-02 | 4 | 1.06E-05 | 4 | 1.85 | Koc | 4 | 2.05E-01 | 8.45E+00 | 4 | 5.92E+01 | 4 | 6.22E+01 | 4 | - | - | - |
| Butylbenzene, n-* | 104-51-8 | O | 134 | TE | 5.70E-02 | TE | 6.74E-06 | TE | 3.48 | Koc | TE | 1.35E-02 | 5.57E-01 | TE | 8.14E-01 | TE | 1.08E+01 | TE | - | - | - |
| Butylbenzene, sec-* | 135-98-8 | O | 134 | TE | 5.75E-02 | TE | 6.75E-06 | TE | 3.32 | Koc | TE | 1.23E-02 | 5.07E-01 | TE | 1.25E+00 | TE | 1.81E+01 | TE | - | - | - |
| Butylbenzene, tert-* | 98-06-6 | O | 134 | TE | 5.84E-02 | TE | 6.76E-06 | TE | 3.39 | Koc | TE | 2.08E-02 | 8.56E-01 | TE | 1.76E+00 | TE | 1.51E+01 | TE | - | - | - |
| carbon tetrachloride (Tetrachlor | 56-23-5 | - | 154 | TE | 7.80E-02 | TE | 8.80E-06 | TE | 2.24 | Koc | TE | 2.91E-02 | 1.20E+00 | TE | 1.12E+02 | TE | 8.05E+02 | TE | - | - | - |
| Chlorobenzene ** | 108-90-7 | AC | 112.6 | PS | 7.30E-02 | PS | 8.70E-06 | PS | 2.34 | Koc | PS | 3.70E-03 | 1.53E-01 | PS | 1.18E+01 | PS | 4.72E+02 | PS | - | - | - |
| Chloroethane ** | 75-00-3 | C | 64.52 | 4 | 1.50E-01 | 4 | 1.18E-05 | 4 | 1.25 | Koc | 4 | 5.10E-03 | 2.10E-01 | 4 | 1.20E+03 | 4 | 2.00E+04 | 4 | - | - | - |
| Chloroform* | 67-66-3 | C | 119.4 | 4 | 1.04E-01 | 4 | 1.00E-05 | 4 | 1.93 | Koc | 4 | 2.96E-03 | 1.22E-01 | 39 | 1.97E+02 | SR | 7.95E+03 | 4 | - | - | - |
| Chloromethane ** | 74-87-3 | C | 51 | 5 | 1.28E-01 | 4 | 1.68E-04 | 7 | 1.15 | Koc | 39 | 8.82E-03 | 3.64E-01 | 29 | 3.80E+03 | 5 | 7.25E+03 | TE | - | - | - |
| Chlorophenol, 2- ** | 95-57-8 | C | 128.6 | PS | 5.01E-02 | PS | 9.46E-06 | PS | 2.59 | Koc | PS | 3.91E-04 | 1.57E-02 | PS | 1.40E+00 | PS | 2.20E+04 | PS | 8.4 | - | PS |
| Chlorophenol, 3- ** | 108-43-0 | - | 129 | TE | 7.13E-02 | TE | 8.74E-06 | TE | 2.05 | Koc | TE | 2.23E-07 | 9.20E-06 | TE | 5.38E-02 | TE | 4.11E+04 | TE | - | - | - |
| Chlorophenol, 4- ** | 106-48-9 | - | 129 | TE | 7.13E-02 | TE | 8.75E-06 | TE | 2.09 | Koc | TE | 2.42E-07 | 9.97E-06 | TE | 4.06E-02 | TE | 2.86E+04 | TE | - | - | - |
| Chlorpyrifos ** | 2921-88-2 | - | 351 | TE | 4.85E-02 | TE | 5.11E-06 | TE | 3.70 | Koc | TE | 4.19E-06 | 1.73E-04 | TE | 1.87E-05 | TE | 9.00E-01 | TE | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 95-50-1 | AC | 147 | 4 | 6.90E-02 | 4 | 7.90E-06 | 4 | 3.28 | Koc | 4 | 1.36E-03 | 5.61E-02 | 4 | 1.50E+00 | 4 | 1.50E+02 | 4 | - | - | - |
| Dichlorobenzene, (1,3) (-m) ** | 541-73-1 | AC | 147 | 4 | 6.88E-02 | TX | 7.90E-06 | 4 | 3.23 | Koc | TX | 2.06E-03 | 8.50E-02 | TX | 3.90E+00 | 29 | 1.23E+02 | TX | - | - | - |
| Dichlorobenzene, (1,4) (-p) ** | 106-46-7 | AC | 147 | 4 | 6.90E-02 | 4 | 7.90E-06 | 4 | 2.80 | Koc | 4 | 1.77E-03 | 7.28E-02 | 4 | 1.20E+00 | 4 | 1.45E+02 | 4 | - | - | - |
| Dichloroethane, 1,1- ** | 75-34-3 | C | 98.96 | 4 | 7.42E-02 | 4 | 1.05E-05 | 4 | 1.49 | Koc | TE | 4.56E-03 | 1.88E-01 | 39 | 2.27E+02 | 4 | 5.50E+03 | 5 | - | - | - |
| Dichloroethane, 1,2- ** | 107-06-2 | C | 99 | 4 | 1.04E-01 | 4 | 9.90E-06 | 4 | 1.76 | Koc | 4 | 7.71E-04 | 3.18E-02 | 39 | 8.00E+01 | 4 | 8.69E+03 | 5 | - | - | - |
| Dichloroethene, cis-1,2- ** | 156-59-2 | C | 96.936 | 4 | 7.36E-02 | 4 | 1.13E-05 | 4 | 1.46 | Koc | TE | 3.27E-03 | 1.35E-01 | 4 | 2.00E+02 | 5 | 4.93E+03 | 30 | - | - | - |
| Dichloroethene,1,2-trans- * * | 156-60-5 | C | 96.936 | 4 | 7.07E-02 | 4 | 1.19E-05 | 4 | 1.64 | Koc | 39 | 7.71E-03 | 3.18E-01 | 39 | 3.31E+02 | 4 | 6.30E+03 | 30 | - | - | - |
| Dimethyl phenol, 2,4-* | 105-67-9 | - | 122 | TE | 5.84E-02 | TE | 8.69E-06 | TE | 2.07 | Koc | TE | 2.01E-06 | 8.31E-05 | TE | 1.26E-01 | TE | 6.20E+03 | TE | - | - | - |
| Hexachlorobenzene ** | 118-74-1 | - | 284.78 | 29 | 5.42E-02 | 31 | 5.91E-06 | 31 | 4.45 | Koc | 29 | 1.50E-03 | 6.19E-02 | 29 | 1.23E-05 | 31 | 6.00E-03 | 31 | - | - | - |
| Hexachloroethane* | 67-72-1 | - | 237 | TE | 2.50E-03 | TE | 6.80E-06 | TE | 3.26 | Koc | TE | 3.93E-03 | 1.62E-01 | TE | 4.72E-01 | TE | 5.00E+01 | TE | - | - | - |
| Pentachlorobenzene* | 608-93-5 | - | 250 | TE | 6.70E-02 | TE | 6.30E-06 | TE | 4.50 | Koc | TE | 7.66E-04 | 3.16E-02 | TE | 1.67E-03 | TE | 6.50E-01 | TE | - | - | - |
| Penthachlorophenol* | 87-86-5 | - | 266 | TE | 5.60E-02 | TE | 6.10E-06 | TE | 2.61 | Kd | TE | 2.81E-07 | 1.16E-05 | TE | 1.70E-05 | TE | 1.40E+01 | TE | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | 634-66-2 | - | 216 | TE | 5.72E-02 | TE | 7.31E-06 | TE | 4.61 | Koc | TE | 7.32E-04 | 3.02E-02 | TE | 1.64E-02 | TE | 6.43E+00 | TE | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | 634-90-2 | O | 216 | - | 5.75E-02 | - | 7.31E-06 | - | 3.80 | Koc | TE | 5.84E-04 | 2.41E-02 | - | 1.06E-02 | - | 5.18E+00 | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | 95-94-3 | - | 216 | - | 2.11E-02 | - | 8.80E-06 | - | 3.20 | Koc | - | 1.21E-03 | 4.99E-02 | - | 5.40E-03 | - | 3.00E-01 | - | - | - | - |
| Tetrachloroethylene (perchloroe | 127-18-4 | - | 165.8 | - | 7.20E-02 | - | 8.20E-06 | - | 2.19 | Koc | - | 1.40E-02 | 5.79E-01 | - | 1.90E+01 | - | 2.00E+02 | - | - | - | - |
| Trichloroethylene (TCE)* | 79-01-6 | O | 131.4 | - | 7.90E-02 | - | 9.10E-06 | - | 2.19 | Koc | - | 8.12E-03 | 3.35E-01 | - | 6.90E+01 | - | 1.10E+03 | - | - | - | - |
| Trimethylbenzene,1,2,4-* | 95-63-6 | - | 120 | TE | 6.22E-02 | TE | 7.28E-06 | TE | 2.97 | Koc | TE | 4.46E-03 | 1.84E-01 | TE | 1.59E+00 | TE | 5.68E+01 | TE | - | - | - |
| Trimethylbenzene,1,3,5- ** | 108-67-8 | O | 120 | TE | 6.21E-02 | TE | 7.23E-06 | TE | 3.01 | Koc | TE | 6.60E-03 | 2.72E-01 | TE | 2.13E+00 | TE | 5.15E+01 | TE | - | - | - |
| Trichlorobenzene, 1,2,3-* | 87-61-6 | O | 181 | - | 6.20E-02 | TE | 7.71E-06 | TE | 3.95 | Koc | TE | 9.21E-04 | 3.80E-02 | - | 6.30E-02 | - | 1.64E+01 | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 120-82-1 | AC | 181.5 | 4 | 3.00E-02 | 4 | 8.23E-06 | 4 | 3.91 | Koc | 4 | 9.75E-04 | 4.02E-02 | 4 | 1.80E-01 | 4 | 3.03E+01 | 4 | - | - | - |
| Trichlorobenzene, 1,3,5-* | 108-70-3 | O | 181.4 | TE | 6.25E-02 | - | 7.66E-06 | - | 3.40 | Koc | - | 1.46E-03 | 6.03E-02 | - | 1.11E-01 | - | 1.82E+01 | - | - | - | - |
| Trichlorophenol,2,3,5-* | 933-78-8 | - | 197 | TE | 6.10E-02 | TE | 7.71E-06 | TE | 2.37 | Koc | TE | 9.58E-08 | 3.95E-06 | TE | 1.37E-03 | TE | 3.74E+03 | TE | - | - | - |
| Trichlorophenol,2,4,5-* | 95-95-4 | - | 197 | TE | 2.91E-02 | TE | 7.03E-06 | TE | 2.47 | Koc | TE | 4.32E-06 | 1.78E-04 | TE | 1.63E-02 | TE | 1.20E+03 | TE | - | - | - |
| Triclorophenol,2,4,6-* | 88-06-2 | - | 197 | TE | 3.18E-02 | TE | 6.25E-06 | TE | 2.12 | Koc | TE | 7.74E-06 | 3.19E-04 | TE | 1.18E-02 | TE | 9.82E+02 | TE | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | 4901-51-3 | - | 232 | TE | 5.65E-02 | TE | 7.32E-06 | TE | 2.66 | Koc | TE | 4.80E-08 | 1.98E-06 | TE | 4.62E-05 | TE | 2.96E+02 | TE | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

**Toxicity Data**

| | Reference Dose (mg/kg/day) | | | | Reference Conc. (mg/m3) | | Slope Factors 1/(mg/kg/day) | | | | Unit Risk Factor 1/(µg/m3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Constituent | Oral RfD_oral | ref | Dermal RfD_dermal (mg/kg/day) | ref | Inhalation RfC_inhal | ref | Oral SF_oral | ref | Dermal SF_dermal 1/(mg/kg/day) | ref | Inhalation URF_inhal | ref | EPA Weight of Evidence | Is Constituent Carcinogenic ? |
| Bromobenzene* | 2.00E-02 | UP | 2.00E-02 | 0.02 | 1.00E-02 | UP | - | - | - | - | - | - | - | FALSE |
| Bromodichloromethane ** | 2.00E-02 | I | 2.00E-02 | 0.02 | 7.00E-02 | R | 6.20E-02 | I | 6.20E-02 | re | 1.77E-05 | CE | B2 | TRUE |
| Butylbenzene, n-* | 4.00E-02 | N | 4.00E-02 | 0.04 | 2.70E-01 | TE | - | - | - | - | - | - | - | #N/A |
| Butylbenzene, sec-* | 4.00E-02 | N | 4.00E-02 | 0.04 | 2.70E-01 | TE | - | - | - | - | - | - | - | #N/A |
| Butylbenzene, tert-* | 4.00E-02 | N | 4.00E-02 | 0.04 | 2.70E-01 | TE | - | - | - | - | - | - | - | #N/A |
| carbon tetrachloride (Tetrachlor | 1.40E-03 | W | 1.40E-03 | 0 | 1.90E-01 | A | 1.30E-01 | I | 1.30E-01 | re | 1.50E-05 | I | - | TRUE |
| Chlorobenzene ** | 8.60E-02 | W | 8.60E-02 | 0.09 | 5.00E-02 | UP | - | - | - | - | - | - | D | FALSE |
| Chloroethane ** | 4.00E-01 | N | 4.00E-01 | 0.4 | 1.00E+01 | I | - | - | - | - | - | - | - | FALSE |
| Chloroform* | 1.50E-02 | W | 1.50E-02 | 0.02 | 9.76E-02 | N | - | - | - | - | 2.30E-05 | I | B2 | TRUE |
| Chloromethane ** | - | - | - | - | 9.00E-02 | I | - | - | - | - | - | - | C | TRUE |
| Chlorophenol, 2- ** | 5.00E-03 | I | 5.00E-03 | 0.01 | 3.00E-02 | T | - | - | - | - | - | - | - | FALSE |
| Chlorophenol, 3- ** | 5.00E-03 | T | 5.00E-03 | 0.01 | 3.00E-02 | T | - | - | - | - | - | - | - | FALSE |
| Chlorophenol, 4- ** | 5.00E-03 | T | 5.00E-03 | 0.01 | 3.00E-02 | T | - | - | - | - | - | - | - | FALSE |
| Chlorpyrifos ** | 1.00E-02 | W | 1.00E-02 | 0.01 | 2.00E-04 | T | - | - | - | - | - | - | - | FALSE |
| Dichlorobenzene (1,2) (-o) ** | 4.29E-01 | W | 4.29E-01 | 0.43 | 2.00E-01 | H | - | - | - | - | - | - | D | FALSE |
| Dichlorobenzene, (1,3) (-m) ** | 3.00E-03 | N | 3.00E-03 | 0 | 8.00E-03 | - | - | - | - | - | - | - | C | FALSE |
| Dichlorobenzene, (1,4) (-p) ** | 1.07E-01 | W | 1.07E-01 | 0.11 | 8.00E-01 | I | - | - | - | - | - | - | B2 | TRUE |
| Dichloroethane, 1,1- ** | 1.00E-01 | H | 1.00E-01 | 0.1 | 5.00E-01 | H | - | - | - | - | - | - | C | FALSE |
| Dichloroethane, 1,2- ** | - | - | - | - | 2.43E+00 | A | 1.00E-02 | W | 1.00E-02 | re | 2.60E-05 | I | B2 | TRUE |
| Dichloroethene, cis-1,2- ** | 1.00E-02 | UP | 1.00E-02 | 0.01 | 7.90E-01 | T | - | - | - | - | - | - | D | FALSE |
| Dichloroethene,1,2-trans- * * | 1.70E-02 | W | 1.70E-02 | 0.02 | 5.60E-02 | UP | - | - | - | - | - | - | - | FALSE |
| Dimethyl phenol, 2,4-* | 2.00E-02 | I | 2.00E-02 | 0.02 | 1.70E-02 | T | - | - | - | - | - | - | - | FALSE |
| Hexachlorobenzene ** | - | - | - | - | - | - | 3.00E-01 | W | 3.00E-01 | re | 4.60E-04 | I | B2 | TRUE |
| Hexachloroethane* | 1.00E-03 | I | 1.00E-03 | 0 | - | - | 1.40E-02 | I | 1.40E-02 | re | 4.00E-06 | I | - | FALSE |
| Pentachlorobenzene* | 8.00E-04 | I | 8.00E-04 | 0 | 1.00E-01 | TE | - | - | - | - | - | - | D | FALSE |
| Penthachlorophenol* | - | - | - | - | 5.00E-04 | T | 3.30E-02 | W | 3.30E-02 | re | 4.60E-06 | CE | B2 | FALSE |
| Tetrachlorobenzene, 1,2,3,4-* | 3.00E-04 | T | 3.00E-04 | 0 | 3.50E-01 | T | - | - | - | - | - | - | - | FALSE |
| Tetrachlorobenzene, 1,2,3,5-* | 3.00E-04 | T | 3.00E-04 | 0 | 3.50E-01 | T | - | - | - | - | - | - | - | FALSE |
| Tetrachlorobenzene, 1,2,4,5-* | 3.00E-04 | I | 3.00E-04 | 0 | 3.50E-01 | TE | - | - | - | - | - | - | - | FALSE |
| Tetrachloroethylene (perchloroe | 1.40E-02 | W | 1.40E-02 | 0.01 | 2.50E-01 | W | - | - | - | - | - | - | B2 | FALSE |
| Trichloroethylene (TCE)* | - | - | - | - | - | - | 1.90E-03 | UK | 1.90E-03 | re | 5.40E-07 | UK | - | FALSE |
| Trimethylbenzene,1,2,4-* | 5.00E-02 | UP | 5.00E-02 | 0.05 | 7.00E-03 | UP | - | - | - | - | - | - | - | FALSE |
| Trimethylbenzene,1,3,5- ** | 5.00E-02 | UP | 5.00E-02 | 0.05 | 6.00E-03 | UP | - | - | - | - | - | - | - | FALSE |
| Trichlorobenzene, 1,2,3-* | 7.70E-03 | W | 7.70E-03 | 0.01 | 4.00E-02 | T | - | - | - | - | - | - | - | FALSE |
| Trichlorobenzene, 1,2,4-* | 1.00E-02 | I | 1.00E-02 | 0.01 | 3.50E-03 | UP | - | - | - | - | - | - | D | FALSE |
| Trichlorobenzene, 1,3,5-* | 7.70E-03 | W | 7.70E-03 | 0.01 | 4.00E-02 | T | - | - | - | - | - | - | - | FALSE |
| Trichlorophenol,2,3,5-* | 1.00E-01 | T | 1.00E-01 | 0.1 | 4.40E-02 | T | - | - | - | - | - | - | - | FALSE |
| Trichlorophenol,2,4,5-* | 1.00E-01 | I | 1.00E-01 | 0.1 | 4.40E-02 | T | - | - | - | - | - | - | - | FALSE |
| Triclorophenol,2,4,6-* | 1.00E-03 | UP | 1.00E-03 | 0 | - | - | 1.10E-02 | I | 1.10E-02 | - | 3.10E-06 | I | - | FALSE |
| Tetrachlorophenol,2,3,4,5-* | 3.00E-02 | T | 3.00E-02 | 0.03 | 7.00E-03 | T | - | - | - | - | - | - | - | FALSE |

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Bromobenzene* | - | - | - | - | - | - | - |
| Bromodichloromethane ** | 1.00E-01 | - | - | - | - | - | 1 |
| Butylbenzene, n-* | - | - | - | - | - | - | - |
| Butylbenzene, sec-* | - | - | - | - | - | - | - |
| Butylbenzene, tert-* | - | - | - | - | - | - | - |
| carbon tetrachloride (Tetrachlor | - | - | - | - | - | - | - |
| Chlorobenzene ** | 1.00E-01 | - | 3.50E+02 | - | - | - | 450 |
| Chloroethane ** | - | - | 2.60E+03 | OSHA | - | - | 6 |
| Chloroform* | 1.00E-01 | - | 9.78E+00 | NIOSH | - | - | 1 |
| Chloromethane ** | - | - | 1.03E+02 | ACGIH | - | - | 1 |
| Chlorophenol, 2- ** | - | - | - | - | - | - | 214 |
| Chlorophenol, 3- ** | - | - | - | - | - | - | - |
| Chlorophenol, 4- ** | - | - | - | - | - | - | - |
| Chlorpyrifos ** | - | - | - | - | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 6.00E-01 | - | 1.50E+02 | ACGIH | - | - | 89 |
| Dichlorobenzene, (1,3) (-m) ** | - | - | - | - | - | - | 66 |
| Dichlorobenzene, (1,4) (-p) ** | 7.50E-02 | - | 4.50E+02 | OSHA | - | - | 215 |
| Dichloroethane, 1,1- ** | - | - | 4.00E+02 | OSHA | - | - | 1 |
| Dichloroethane, 1,2- ** | 5.00E-03 | - | 4.00E+00 | NIOSH | - | - | 2 |
| Dichloroethene, cis-1,2- ** | 7.00E-02 | - | 7.90E+02 | NIOSH | - | - | 1 |
| Dichloroethene,1,2-trans- * * | 1.00E-01 | - | 7.90E+02 | NIOSH | - | - | 1 |
| Dimethyl phenol, 2,4-* | - | - | - | - | - | - | - |
| Hexachlorobenzene ** | 1.00E-03 | - | - | - | - | - | 18500 |
| Hexachloroethane* | - | - | - | - | - | - | - |
| Pentachlorobenzene* | - | - | - | - | - | - | - |
| Penthachlorophenol* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | - | - | - | - | - | - | - |
| Tetrachloroethylene (perchloroe | - | - | - | - | - | - | - |
| Trichloroethylene (TCE)* | - | - | - | - | - | - | - |
| Trimethylbenzene,1,2,4-* | - | - | - | - | - | - | - |
| Trimethylbenzene,1,3,5- ** | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,3-* | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 7.00E-02 | - | 4.00E+01 | NIOSH | - | - | 2800 |
| Trichlorobenzene, 1,3,5-* | - | - | - | - | - | - | - |
| Trichlorophenol,2,3,5-* | - | - | - | - | - | - | - |
| Trichlorophenol,2,4,5-* | - | - | - | - | - | - | - |
| Triclorophenol,2,4,6-* | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | - | - | - | - | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromodichloromethane ** | 0.5 | 0.00247 | 0.87 | 2.1 | 0.012 | 1.2E-2 | D | 0.001 | S | 0.005 | S | - | - | - |
| Butylbenzene, n-* | - | 0.305 | - | - | - | - | - | - | - | - | - | - | - | - |
| Butylbenzene, sec-* | - | 0.22 | - | - | - | - | - | - | - | - | - | - | - | - |
| Butylbenzene, tert-* | - | 0.255 | - | - | - | - | - | - | - | - | - | - | - | - |
| carbon tetrachloride (Tetrachlor | - | 0.0224 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorobenzene ** | 0.5 | 0.041 | 0.43 | 1 | 0.069 | 1.5E-1 | D | 0.002 | S | 0.005 | S | 300 | 300 | H |
| Chloroethane ** | 0.5 | 0.008 | 0.22 | 0.52 | 0.0027 | 2.7E-2 | D | 0.005 | S | 0.01 | S | 56 | 56 | H |
| Chloroform* | 0.5 | 0.0089 | 0.47 | 1.1 | 0.0093 | 3.5E-2 | D | 0.0005 | S | 0.005 | S | 1800 | 1800 | H |
| Chloromethane ** | 0.5 | 0.0042 | 0.18 | 0.43 | 0.00081 | 1.4E-2 | D | 0.001 | S | 0.01 | S | 56 | 56 | H |
| Chlorophenol, 2- ** | 0.5 | 0.0101 | 0.53 | 1.3 | 0.014 | 4.1E-2 | D | 0.01 | 32 | 0.66 | 32 | - | - | - |
| Chlorophenol, 3- ** | - | 0.00869 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorophenol, 4- ** | - | 0.00913 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorpyrifos ** | - | 0.0265 | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 0.5 | 0.0348 | 0.69 | 3.2 | 0.24 | 1.4E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichlorobenzene, (1,3) (-m) ** | 0 | 0.087 | 0.69 | 4.1 | 0.4 | 3.5E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichlorobenzene, (1,4) (-p) ** | 0.5 | 0.0348 | 0.69 | 3.3 | 0.25 | 1.4E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichloroethane, 1,1- ** | 0.5 | 0.0089 | 0.35 | 0.84 | 0.0062 | 3.3E-2 | D | 0.001 | S | 0.005 | S | 360 | 360 | H |
| Dichloroethane, 1,2- ** | 0.5 | 0.0053 | 0.35 | 0.84 | 0.003 | 2.0E-2 | D | 0.0005 | S | 0.005 | S | 360 | 360 | H |
| Dichloroethene, cis-1,2- ** | 0.5 | - | - | - | - | - | - | 0.001 | S | 0.005 | S | 2875 | 2875 | H |
| Dichloroethene,1,2-trans- * * | 0.5 | 0.01 | 0.34 | 0.82 | 0.0072 | 3.7E-2 | D | 0.001 | S | 0.005 | S | 2875 | 2875 | H |
| Dimethyl phenol, 2,4-* | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene ** | 0 | - | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 4178 | 4178 | H |
| Hexachloroethane* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorobenzene* | 0.00000046 | 0.176 | - | - | - | - | - | - | - | - | - | - | - | - |
| Penthachlorophenol* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | 0.1 | 0.122 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | 0.1 | 0.0000868 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | 0.1 | 0.153 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachloroethylene (perchloroe | - | 0.0145 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichloroethylene (TCE)* | - | 0.0115 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trimethylbenzene,1,2,4-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trimethylbenzene,1,3,5- ** | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,3-* | 0.1 | 0.000142 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 0.5 | 0.0603 | 1.1 | 9.3 | 0.95 | 3.0E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Trichlorobenzene, 1,3,5-* | 0.1 | 0.133 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorophenol,2,3,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorophenol,2,4,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Triclorophenol,2,4,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | Diffusion Coefficients in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) | partition | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | 58-90-2 | - | 232 | TE | 2.17E-02 | TE | 7.10E-06 | TE | 2.02 | Koc | TE | 6.16E-06 | 2.54E-04 | TE | 5.02E-03 | TE | 1.00E+02 | TE | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | 935-95-5 | - | 232 | TE | 5.60E-02 | TE | 7.29E-06 | TE | 1.40 | Koc | TE | 1.41E-04 | 5.82E-03 | TE | 9.20E-04 | TE | 2.03E+00 | TE | - | - | - |
| Trichloroethane, 1,1,1- ** | 71-55-6 | C | 133.4 | 4 | 7.80E-02 | 4 | 8.80E-06 | 4 | 2.45 | Koc | 4 | 1.72E-02 | 7.09E-01 | 4 | 1.23E+02 | 4 | 1.26E+03 | 4 | - | - | - |
| Trichloroethane, 1,1,2- ** | 79-00-5 | C | 133.4 | 4 | 7.80E-02 | 4 | 8.80E-06 | 4 | 0.00 | Koc | 4 | 7.40E-04 | 3.05E-02 | 4 | 2.50E+01 | 4 | 5.93E+03 | 4 | - | - | - |
| Vinyl chloride ** | 75-01-4 | C | 62.5 | 4 | 1.06E-01 | 4 | 1.23E-05 | 4 | 1.27 | Koc | - | 2.67E-02 | 1.10E+00 | - | 2.66E+03 | 4 | 2.54E+03 | 4 | - | - | - |

* = Chemical with user-specified data

Site Name: Can Planas

Completed By: IDOM

Job ID: 13506

Site Location: Comercial Sanitario INHALACIÓN S9/COVs

Date Completed: 17-jun-yy

# CHEMICAL DATA FOR SELECTED COCs

**Toxicity Data**

| | Reference Dose (mg/kg/day) | | Reference Dose (mg/kg/day) | | Reference Conc. (mg/m3) | | Slope Factors 1/(mg/kg/day) | | Slope Factors 1/(mg/kg/day) | | Unit Risk Factor 1/(µg/m3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Constituent** | **Oral RfD_oral** | ref | **Dermal RfD_dermal** | ref | **Inhalation RfC_inhal** | ref | **Oral SF_oral** | ref | **Dermal SF_dermal** | ref | **Inhalation URF_inhal** | ref | **EPA Weight of Evidence** | **Is Constituent Carcinogenic ?** |
| Tetrachlorophenol,2,3,4,6-* | 3.00E-02 | I | 3.00E-02 | 0.03 | 7.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Tetrachlorophenol,2,3,5,6-* | 3.00E-02 | T | 3.00E-02 | 0.03 | 7.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Trichloroethane, 1,1,1- ** | 6.00E-01 | W | 6.00E-01 | 0.6 | 2.20E+00 | UP | - | - | - | - | - | - | D | FALSE |
| Trichloroethane, 1,1,2- ** | 4.00E-03 | I | 4.00E-03 | 0 | - | - | 5.70E-02 | I | 5.70E-02 | re | 1.60E-05 | I | C | TRUE |
| Vinyl chloride ** | - | - | - | - | - | - | 1.00E+00 | W | 1.00E+00 | re | 1.00E-06 | W | A | TRUE |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Sani

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | - | - | - | - | - | - | - |
| Trichloroethane, 1,1,1- ** | 2.00E-01 | - | 1.90E+03 | OSHA | - | - | 9 |
| Trichloroethane, 1,1,2- ** | 5.00E-03 | - | 4.50E+01 | OSHA | - | - | 1 |
| Vinyl chloride ** | 2.00E-03 | - | 1.30E+01 | ACGIH | - | - | 1 |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Sani

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichloroethane, 1,1,1- ** | 0.5 | 0.017 | 0.57 | 1.4 | 0.031 | 7.0E-2 | D | 0.005 | S | 0.005 | S | 546 | 546 | H |
| Trichloroethane, 1,1,2- ** | 0.5 | 0.0084 | 0.57 | 1.4 | 0.011 | 3.5E-2 | D | 0.0005 | 35 | 0.005 | S | 730 | 730 | H |
| Vinyl chloride ** | 0.5 | 0.00871 | 0.21 | 0.51 | 0.0023 | 3.0E-2 | D | 0.002 | S | 0.01 | S | 2875 | 2875 | H |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Sani

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Bromobenzene* | - | - | - | - | - | - | - |
| Bromodichloromethane ** | 1.00E-01 | - | - | - | - | - | 1 |
| Butylbenzene, n-* | - | - | - | - | - | - | - |
| Butylbenzene, sec-* | - | - | - | - | - | - | - |
| Butylbenzene, tert-* | - | - | - | - | - | - | - |
| carbon tetrachloride (Tetrachlor | - | - | - | - | - | - | - |
| Chlorobenzene ** | 1.00E-01 | - | 3.50E+02 | - | - | - | 450 |
| Chloroethane ** | - | - | 2.60E+03 | OSHA | - | - | 6 |
| Chloroform* | 1.00E-01 | - | 9.78E+00 | NIOSH | - | - | 1 |
| Chloromethane ** | - | - | 1.03E+02 | ACGIH | - | - | 1 |
| Chlorophenol, 2- ** | - | - | - | - | - | - | 214 |
| Chlorophenol, 3- ** | - | - | - | - | - | - | - |
| Chlorophenol, 4- ** | - | - | - | - | - | - | - |
| Chlorpyrifos ** | - | - | - | - | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 6.00E-01 | - | 1.50E+02 | ACGIH | - | - | 89 |
| Dichlorobenzene, (1,3) (-m) ** | - | - | - | - | - | - | 66 |
| Dichlorobenzene, (1,4) (-p) ** | 7.50E-02 | - | 4.50E+02 | OSHA | - | - | 215 |
| Dichloroethane, 1,1- ** | - | - | 4.00E+02 | OSHA | - | - | 1 |
| Dichloroethane, 1,2- ** | 5.00E-03 | - | 4.00E+00 | NIOSH | - | - | 2 |
| Dichloroethene, cis-1,2- ** | 7.00E-02 | - | 7.90E+02 | NIOSH | - | - | 1 |
| Dichloroethene,1,2-trans- * * | 1.00E-01 | - | 7.90E+02 | NIOSH | - | - | 1 |
| Dimethyl phenol, 2,4-* | - | - | - | - | - | - | - |
| Hexachlorobenzene ** | 1.00E-03 | - | - | - | - | - | 18500 |
| Hexachloroethane* | - | - | - | - | - | - | - |
| Pentachlorobenzene* | - | - | - | - | - | - | - |
| Penthachlorophenol* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | - | - | - | - | - | - | - |
| Tetrachloroethylene (perchloroe | - | - | - | - | - | - | - |
| Trichloroethylene (TCE)* | - | - | - | - | - | - | - |
| Trimethylbenzene,1,2,4-* | - | - | - | - | - | - | - |
| Trimethylbenzene,1,3,5- ** | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,3-* | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 7.00E-02 | - | 4.00E+01 | NIOSH | - | - | 2800 |
| Trichlorobenzene, 1,3,5-* | - | - | - | - | - | - | - |
| Trichlorophenol,2,3,5-* | - | - | - | - | - | - | - |
| Trichlorophenol,2,4,5-* | - | - | - | - | - | - | - |
| Triclorophenol,2,4,6-* | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | - | - | - | - | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bromobenzene* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Bromodichloromethane ** | 0.5 | 0.00247 | 0.87 | 2.1 | 0.012 | 1.2E-2 | D | 0.001 | S | 0.005 | S | - | - | - |
| Butylbenzene, n-* | - | 0.305 | - | - | - | - | - | - | - | - | - | - | - | - |
| Butylbenzene, sec-* | - | 0.22 | - | - | - | - | - | - | - | - | - | - | - | - |
| Butylbenzene, tert-* | - | 0.255 | - | - | - | - | - | - | - | - | - | - | - | - |
| carbon tetrachloride (Tetrachlor | - | 0.0224 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorobenzene ** | 0.5 | 0.041 | 0.43 | 1 | 0.069 | 1.5E-1 | D | 0.002 | S | 0.005 | S | 300 | 300 | H |
| Chloroethane ** | 0.5 | 0.008 | 0.22 | 0.52 | 0.0027 | 2.7E-2 | D | 0.005 | S | 0.01 | S | 56 | 56 | H |
| Chloroform* | 0.5 | 0.0089 | 0.47 | 1.1 | 0.0093 | 3.5E-2 | D | 0.0005 | S | 0.005 | S | 1800 | 1800 | H |
| Chloromethane ** | 0.5 | 0.0042 | 0.18 | 0.43 | 0.00081 | 1.4E-2 | D | 0.001 | S | 0.01 | S | 56 | 56 | H |
| Chlorophenol, 2- ** | 0.5 | 0.0101 | 0.53 | 1.3 | 0.014 | 4.1E-2 | D | 0.01 | 32 | 0.66 | 32 | - | - | - |
| Chlorophenol, 3- ** | - | 0.00869 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorophenol, 4- ** | - | 0.00913 | - | - | - | - | - | - | - | - | - | - | - | - |
| Chlorpyrifos ** | - | 0.0265 | - | - | - | - | - | - | - | - | - | - | - | - |
| Dichlorobenzene (1,2) (-o) ** | 0.5 | 0.0348 | 0.69 | 3.2 | 0.24 | 1.4E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichlorobenzene, (1,3) (-m) ** | 0 | 0.087 | 0.69 | 4.1 | 0.4 | 3.5E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichlorobenzene, (1,4) (-p) ** | 0.5 | 0.0348 | 0.69 | 3.3 | 0.25 | 1.4E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Dichloroethane, 1,1- ** | 0.5 | 0.0089 | 0.35 | 0.84 | 0.0062 | 3.3E-2 | D | 0.001 | S | 0.005 | S | 360 | 360 | H |
| Dichloroethane, 1,2- ** | 0.5 | 0.0053 | 0.35 | 0.84 | 0.003 | 2.0E-2 | D | 0.0005 | S | 0.005 | S | 360 | 360 | H |
| Dichloroethene, cis-1,2- ** | 0.5 | - | - | - | - | - | - | 0.001 | S | 0.005 | S | 2875 | 2875 | H |
| Dichloroethene,1,2-trans- * * | 0.5 | 0.01 | 0.34 | 0.82 | 0.0072 | 3.7E-2 | D | 0.001 | S | 0.005 | S | 2875 | 2875 | H |
| Dimethyl phenol, 2,4-* | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hexachlorobenzene ** | 0 | - | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 4178 | 4178 | H |
| Hexachloroethane* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Pentachlorobenzene* | 0.00000046 | 0.176 | - | - | - | - | - | - | - | - | - | - | - | - |
| Penthachlorophenol* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,4-* | 0.1 | 0.122 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,3,5-* | 0.1 | 0.0000868 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorobenzene, 1,2,4,5-* | 0.1 | 0.153 | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachloroethylene (perchloroe | - | 0.0145 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichloroethylene (TCE)* | - | 0.0115 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trimethylbenzene,1,2,4-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trimethylbenzene,1,3,5- ** | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,3-* | 0.1 | 0.000142 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorobenzene, 1,2,4-* | 0.5 | 0.0603 | 1.1 | 9.3 | 0.95 | 3.0E-1 | D | 0.01 | 32 | 0.66 | 32 | 360 | 360 | H |
| Trichlorobenzene, 1,3,5-* | 0.1 | 0.133 | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorophenol,2,3,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichlorophenol,2,4,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Triclorophenol,2,4,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,4,5-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) | partition | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | 58-90-2 | - | 232 | TE | 2.17E-02 | TE | 7.10E-06 | TE | 2.02 | Koc | TE | 6.16E-06 | 2.54E-04 | TE | 5.02E-03 | TE | 1.00E+02 | TE | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | 935-95-5 | - | 232 | TE | 5.60E-02 | TE | 7.29E-06 | TE | 1.40 | Koc | TE | 1.41E-04 | 5.82E-03 | TE | 9.20E-04 | TE | 2.03E+00 | TE | - | - | - |
| Trichloroethane, 1,1,1- ** | 71-55-6 | C | 133.4 | 4 | 7.80E-02 | 4 | 8.80E-06 | 4 | 2.45 | Koc | 4 | 1.72E-02 | 7.09E-01 | 4 | 1.23E+02 | 4 | 1.26E+03 | 4 | - | - | - |
| Trichloroethane, 1,1,2- ** | 79-00-5 | C | 133.4 | 4 | 7.80E-02 | 4 | 8.80E-06 | 4 | 0.00 | Koc | 4 | 7.40E-04 | 3.05E-02 | 4 | 2.50E+01 | 4 | 5.93E+03 | 4 | - | - | - |
| Vinyl chloride ** | 75-01-4 | C | 62.5 | 4 | 1.06E-01 | 4 | 1.23E-05 | 4 | 1.27 | Koc | - | 2.67E-02 | 1.10E+00 | - | 2.66E+03 | 4 | 2.54E+03 | 4 | - | - | - |

* = Chemical with user-specified data

Site Name: Can Planas

Completed By: IDOM

Job ID: 13506

Site Location:

Date Completed: 17-jun-yy

## CHEMICAL DATA FOR SELECTED COCs

**Toxicity Data**

| | Reference Dose (mg/kg/day) | | | | Reference Conc. (mg/m3) | | Slope Factors 1/(mg/kg/day) | | | | Unit Risk Factor 1/(µg/m3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oral | | Dermal (mg/kg/day) | | Inhalation | | Oral | | Dermal 1/(mg/kg/day) | | Inhalation | | EPA Weight | Is |
| Constituent | RfD_oral | ref | RfD_dermal | ref | RfC_inhal | ref | SF_oral | ref | SF_dermal | ref | URF_inhal | ref | of Evidence | Constituent Carcinogenic ? |
| Tetrachlorophenol,2,3,4,6-* | 3.00E-02 | I | 3.00E-02 | 0.03 | 7.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Tetrachlorophenol,2,3,5,6-* | 3.00E-02 | T | 3.00E-02 | 0.03 | 7.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Trichloroethane, 1,1,1- ** | 6.00E-01 | W | 6.00E-01 | 0.6 | 2.20E+00 | UP | - | - | - | - | - | - | D | FALSE |
| Trichloroethane, 1,1,2- ** | 4.00E-03 | I | 4.00E-03 | 0 | - | - | 5.70E-02 | I | 5.70E-02 | re | 1.60E-05 | I | C | TRUE |
| Vinyl chloride ** | - | - | - | - | - | - | 1.00E+00 | W | 1.00E+00 | re | 1.00E-06 | W | A | TRUE |

* = Chemical with user-specified

Site Name: Can Planas

Site Location:

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | - | - | - | - | - | - | - |
| Trichloroethane, 1,1,1- ** | 2.00E-01 | - | 1.90E+03 | OSHA | - | - | 9 |
| Trichloroethane, 1,1,2- ** | 5.00E-03 | - | 4.50E+01 | OSHA | - | - | 1 |
| Vinyl chloride ** | 2.00E-03 | - | 1.30E+01 | ACGIH | - | - | 1 |

* = Chemical with user-specified

Site Name: Can Planas

Site Location:

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tetrachlorophenol,2,3,4,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Tetrachlorophenol,2,3,5,6-* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Trichloroethane, 1,1,1- ** | 0.5 | 0.017 | 0.57 | 1.4 | 0.031 | 7.0E-2 | D | 0.005 | S | 0.005 | S | 546 | 546 | H |
| Trichloroethane, 1,1,2- ** | 0.5 | 0.0084 | 0.57 | 1.4 | 0.011 | 3.5E-2 | D | 0.0005 | 35 | 0.005 | S | 730 | 730 | H |
| Vinyl chloride ** | 0.5 | 0.00871 | 0.21 | 0.51 | 0.0023 | 3.0E-2 | D | 0.002 | S | 0.01 | S | 2875 | 2875 | H |

* = Chemical with user-specified

Site Name: Can Planas

Site Location:

## CHEMICAL DATA FOR SELECTED COCs

**Physical Property Data**

| Constituent | CAS Number | type | Molecular Weight (g/mole) MW | ref | Diffusion Coefficients in air (cm2/s) Dair | ref | Diffusion Coefficients in water (cm2/s) Dwat | ref | log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) | partition | ref | Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol | (unitless) | ref | Vapor Pressure (@ 20 - 25 C) (mm Hg) | ref | Solubility (@ 20 - 25 C) (mg/L) | ref | acid pKa | base pKb | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Polychlorinated biphenyls (PCB | 1336-36-3 | - | 292 | - | 1.00E-01 | - | 1.00E-05 | - | 5.49 | Koc | - | 4.12E-04 | 1.70E-02 | - | 8.00E-05 | - | 7.00E-01 | - | - | - | - |
| Phthalate, bis(2-Ethylhexyl) | 117-81-7 | O | 391.07 | 4 | 3.51E-02 | 4 | 3.66E-06 | 4 | 5.21 | Koc | 4 | 3.00E-07 | 1.24E-05 | 4 | 2.00E-07 | 4 | 3.43E-01 | 4 | - | - | - |
| Biphenyl, 1,1- ** | 92-52-4 | O | 154 | TE | 5.73E-02 | TE | 6.71E-06 | TE | 3.71 | Koc | TE | 3.03E-04 | 1.25E-02 | TE | 2.94E-02 | TE | 7.50E+00 | TE | - | - | - |
| Bis (2-ethyl-hexyl) phthalate* | 117-81-7 | - | 390.6 | - | 3.50E-02 | - | 3.70E-06 | - | 7.20 | Koc | 30 | 1.01E-07 | 4.18E-06 | - | 9.80E-06 | - | 3.40E-01 | 30 | - | - | - |
| Diethyl phthalate* | 84-66-2 | - | 222 | TE | 2.56E-02 | TE | 6.35E-06 | TE | 2.18 | Koc | TE | 4.53E-07 | 1.87E-05 | TE | 1.65E-03 | TE | 1.08E+03 | TE | - | - | - |
| Dimethylphthalate* | 131-11-3 | - | 194 | TE | 5.68E-02 | TE | 6.30E-06 | TE | 1.50 | Koc | TE | 5.82E-07 | 2.40E-05 | - | 9.12E-03 | TE | 4.19E+03 | TE | - | - | - |
| Di-n-butyl phthalate (dibutyl phth | 84-74-2 | - | 278 | TE | 4.38E-02 | - | 7.90E-06 | - | 4.53 | Koc | TE | 1.09E-09 | 4.50E-08 | - | 7.30E-05 | - | 1.12E+01 | - | - | - | - |
| Dibenzofuran* | 132-64-9 | - | 168 | TE | 5.51E-02 | TE | 7.04E-06 | TE | 3.93 | Koc | TE | 1.28E-04 | 5.28E-03 | TE | 1.64E-03 | TE | 2.86E+00 | TE | - | - | - |
| Dieldrin ** | 60-57-1 | - | 380.91 | 29 | 1.25E-02 | 31 | 4.74E-06 | 31 | 4.55 | Koc | 29 | 3.00E-05 | 1.24E-03 | 29 | 9.96E-07 | 31 | 1.95E-01 | 31 | - | - | - |
| Endrin* | 72-20-8 | - | 381 | TE | 1.25E-02 | TE | 4.74E-06 | TE | 3.97 | Kd | TE | 1.20E-06 | 4.95E-05 | TE | 5.84E-07 | TE | 2.50E-01 | TE | - | - | - |
| Cresol (-m) ** | 108-39-4 | AP | 108.1 | 4 | 7.40E-02 | 4 | 1.00E-05 | 4 | 1.94 | Koc | 4 | 4.43E-07 | 1.83E-05 | 4 | 8.00E-02 | 4 | 2.57E+04 | 4 | - | - | - |
| Cresol (-o) ** | 95-48-7 | AP | 108.1 | 4 | 7.40E-02 | 4 | 8.30E-06 | 4 | 1.95 | Koc | 4 | 2.60E-06 | 1.07E-04 | 4 | 2.40E-01 | 4 | 1.31E+04 | 4 | - | - | - |
| Cresol (-p)* | 106-44-5 | AP | 108.1 | 4 | 7.40E-02 | 4 | 1.00E-05 | 4 | 1.91 | Koc | 4 | 4.43E-07 | 1.83E-05 | 4 | 1.10E-01 | 4 | 3.53E+04 | 4 | - | - | - |
| Formaldehyde ** | 50-00-0 | A | 30.03 | 29 | 1.87E-01 | 30 | 2.06E-05 | 7 | 0.34 | Koc | TE | 3.15E-07 | 1.30E-05 | TE | 3.88E+03 | 31 | 4.00E+05 | TX | - | - | - |
| Mercury ** | 7439-97-6 | N | 200.59 | PS | 3.07E-02 | PS | 6.30E-06 | PS | -1.40 | Kd | TE | 1.14E-02 | 4.70E-01 | TE | 1.90E-03 | SR | 6.00E-02 | SR | - | - | - |
| TPH Aliphatic 06-08* | 0-00-0 | - | 100 | - | 1.00E-01 | - | 1.00E-05 | - | 3.60 | Koc | - | 1.21E+00 | 5.00E+01 | - | 4.79E+01 | - | 5.40E+00 | - | - | - | - |
| TPH Aliphatic 08-10* | 0-00-0 | - | 130 | - | 1.00E-01 | - | 1.00E-05 | - | 4.50 | Koc | - | 1.94E+00 | 8.00E+01 | - | 4.79E+00 | - | 4.30E-01 | - | - | - | - |
| TPH Aliphatic 10-12* | 0-00-0 | - | 160 | - | 1.00E-01 | - | 1.00E-05 | - | 5.40 | Koc | - | 2.91E+00 | 1.20E+02 | - | 4.79E-01 | - | 3.40E-02 | - | - | - | - |
| TPH Aliphatic 12-16* | 0-00-0 | - | 200 | - | 1.00E-01 | - | 1.00E-05 | - | 6.70 | Koc | - | 1.26E+01 | 5.20E+02 | - | 3.65E-02 | - | 7.60E-04 | - | - | - | - |
| TPH Aliphatic 10-16* | 0-00-0 | - | #N/A | - | #N/A | - | #N/A | - | #N/A | #N/A | - | #N/A | #N/A | - | #N/A | - | #N/A | - | #N/A | #N/A | - |
| TPH Aliphatic 12-22* | 0-00-0 | - | 240 | - | 1.00E-01 | - | 1.00E-05 | - | 8.08 | Koc | - | 5.67E+01 | 2.34E+03 | - | 3.03E-03 | - | 1.70E-05 | - | - | - | - |
| TPH Aliphatic 16-22* | 0-00-0 | - | 268 | - | 1.00E-01 | - | 1.00E-05 | - | 8.98 | Koc | - | 1.53E+02 | 6.30E+03 | - | 5.80E-03 | - | 1.30E-06 | - | - | - | - |
| TPH Aliphatic 22-30 ** | 0-00-0 | T | 366 | - | 1.00E-01 | - | 1.00E-05 | - | 12.13 | Koc | - | 4.36E+03 | 1.80E+05 | - | 5.80E-03 | - | 1.90E-10 | - | - | - | - |
| TPH Aliphatics 30-40** | 0-00-0 | - | 492 | - | 1.00E-01 | - | 1.00E-05 | - | 16.18 | Koc | - | 3.15E+05 | 1.30E+07 | - | 5.80E-03 | - | 2.10E-15 | - | - | - | - |
| TPH Aromatic 07-08* | 0-00-0 | - | 92 | - | 1.00E-01 | - | 1.00E-05 | - | 3.10 | Koc | - | 2.30E-02 | 9.50E-01 | - | 2.82E+01 | - | 1.30E+02 | - | - | - | - |
| TPH Aromatic 08-10* | 0-00-0 | - | 120 | - | 1.00E-01 | - | 1.00E-05 | - | 3.20 | Koc | - | 1.19E-02 | 4.90E-01 | - | 4.79E+00 | - | 6.50E+01 | - | - | - | - |
| TPH Aromatic 10-12* | 0-00-0 | - | 130 | - | 1.00E-01 | - | 1.00E-05 | - | 3.40 | Koc | - | 3.39E-03 | 1.40E-01 | - | 4.79E-01 | - | 2.50E+01 | - | - | - | - |
| TPH Aromatic 12-16* | 0-00-0 | - | 150 | - | 1.00E-01 | - | 1.00E-05 | - | 3.70 | Koc | - | 1.26E-03 | 5.20E-02 | - | 3.65E-02 | - | 5.80E+00 | - | - | - | - |
| TPH Aromatic 10-16** | 0-00-0 | - | 168 | - | 1.00E-01 | - | 1.00E-05 | - | 3.60 | Koc | - | 1.99E-03 | 8.20E-02 | - | 3.60E-02 | - | 9.30E+00 | - | - | - | - |
| TPH Aromatic 12-22* | 0-00-0 | - | 232 | - | 1.00E-01 | - | 1.00E-05 | - | 4.00 | Koc | - | 6.89E-04 | 2.84E-02 | - | 3.03E-03 | - | 1.30E+00 | - | - | - | - |
| TPH Aromatic 16-22** | 0-00-0 | - | 254 | - | 1.00E-01 | - | 1.00E-05 | - | 4.20 | Koc | - | 3.88E-04 | 1.60E-02 | - | 5.80E-03 | - | 5.10E-01 | - | - | - | - |
| TPH Aromatic 22-30* | 0-00-0 | - | 332 | - | 1.00E-01 | - | 1.00E-05 | - | 4.90 | Koc | - | 4.36E-05 | 1.80E-03 | - | 3.30E-06 | - | 1.70E-02 | - | - | - | - |
| TPH Aromatic 30-40* | 0-00-0 | - | 332 | - | 1.00E-01 | - | 1.00E-05 | - | 5.80 | Koc | - | 4.36E-05 | 1.80E-03 | - | 3.30E-06 | - | 2.20E-04 | - | - | - | - |

* = Chemical with user-specified data

Site Name: Can Planas

Completed By: IDOM

Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 9/varias familias

Date Completed: 17-jun-yy

## CHEMICAL DATA FOR SELECTED COCs

**Toxicity Data**

| | Reference Dose (mg/kg/day) | | | | Reference Conc. (mg/m3) | | Slope Factors 1/(mg/kg/day) | | | | Unit Risk Factor 1/(µg/m3) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (mg/kg/day) | | | | | | 1/(mg/kg/day) | | | | | |
| Constituent | Oral RfD_oral | ref | Dermal RfD_dermal | ref | Inhalation RfC_inhal | ref | Oral SF_oral | ref | Dermal SF_dermal | ref | Inhalation URF_inhal | ref | EPA Weight of Evidence | Is Constituent Carcinogenic ? |
| Polychlorinated biphenyls (PCBs | 4.00E-06 | RI | 4.00E-06 | 0 | 5.00E-04 | RI | 2.00E+00 | I | 2.00E+00 | re | 1.00E-04 | I | B2 | TRUE |
| Phthalate, bis(2-Ethylhexyl) | 2.00E-02 | PS | - | - | - | - | 1.40E-02 | PS | 7.37E-02 | TX | 4.00E-06 | R | B2 | TRUE |
| Biphenyl, 1,1- ** | 5.00E-02 | I | 5.00E-02 | 0.05 | 1.30E-03 | T | - | - | - | - | - | - | - | #N/A |
| Bis (2-ethyl-hexyl) phthalate* | 2.50E-02 | W | 2.50E-02 | 0.03 | - | - | 1.40E-02 | I | 1.40E-02 | re | 2.40E-06 | CE | - | FALSE |
| Diethyl phthalate* | 8.00E-01 | I | 8.00E-01 | 0.8 | 5.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Dimethylphthalate* | 8.00E-01 | T | 8.00E-01 | 0.8 | 5.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Di-n-butyl phthalate (dibutyl phth | 1.00E-01 | I | 1.00E-01 | 0.1 | 5.00E-03 | T | - | - | - | - | - | - | - | FALSE |
| Dibenzofuran* | 1.00E-03 | UP | 1.00E-03 | 0 | - | - | - | - | - | - | - | - | D | FALSE |
| Dieldrin ** | 5.00E-05 | I | 5.00E-05 | 0 | - | - | 1.60E+01 | I | 1.60E+01 | re | 4.60E-03 | I | B2 | TRUE |
| Endrin* | 2.00E-04 | W | 2.00E-04 | 0 | 1.04E-04 | T | - | - | - | - | - | - | - | FALSE |
| Cresol (-m) ** | 5.00E-02 | I | 5.00E-02 | 0.05 | 1.00E-02 | T | - | - | - | - | - | - | C | FALSE |
| Cresol (-o) ** | 5.00E-02 | I | 5.00E-02 | 0.05 | 1.00E-02 | T | - | - | - | - | - | - | C | FALSE |
| Cresol (-p)* | 5.00E-03 | H | 5.00E-03 | 0.01 | 1.00E-02 | T | - | - | - | - | - | - | C | FALSE |
| Formaldehyde ** | 2.00E-01 | I | 2.00E-01 | 0.2 | 9.80E-03 | A | - | - | - | - | 1.30E-05 | I | B1 | TRUE |
| Mercury ** | 2.00E-03 | W | 2.00E-03 | 0 | 9.98E-04 | W | - | - | - | - | - | - | D | FALSE |
| TPH Aliphatic 06-08* | 5.00E+00 | T | 5.00E+00 | 5 | 1.84E-01 | T | - | - | - | - | - | - | - | #N/A |
| TPH Aliphatic 08-10* | 1.00E-01 | T | 1.00E-01 | 0.1 | 1.00E+00 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aliphatic 10-12* | 1.00E-01 | T | 1.00E-01 | 0.1 | 1.00E+00 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aliphatic 12-16* | 1.00E-01 | T | 1.00E-01 | 0.1 | 1.00E+00 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aliphatic 10-16* | 1.00E-01 | - | 1.00E-01 | 0.1 | 1.00E+00 | - | - | - | - | - | - | - | - | #N/A |
| TPH Aliphatic 12-22* | 1.00E-01 | T | 1.00E-01 | 0.1 | 1.00E+00 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aliphatic 16-22* | 2.00E+00 | T | 2.00E+00 | 2 | - | - | - | - | - | - | - | - | - | #N/A |
| TPH Aliphatic 22-30 ** | 2.00E+00 | T | 2.00E+00 | 2 | - | - | - | - | - | - | - | - | - | FALSE |
| TPH Aliphatics 30-40** | 1.00E+00 | T | 1.00E+00 | 1 | - | - | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 07-08* | 2.00E-01 | T | 2.00E-01 | 0.2 | 3.99E-01 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 08-10* | 4.00E-02 | T | 4.00E-02 | 0.04 | 2.00E-01 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 10-12* | 4.00E-02 | T | 4.00E-02 | 0.04 | 2.00E-01 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 12-16* | 4.00E-02 | T | 4.00E-02 | 0.04 | 2.00E-01 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 10-16** | 4.00E-02 | T | 4.00E-02 | 0.04 | 1.90E-02 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 12-22* | 4.00E-02 | T | 4.00E-02 | 0.04 | 2.00E-01 | T | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 16-22** | 3.00E-02 | T | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | - | FALSE |
| TPH Aromatic 22-30* | 3.00E-02 | T | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | - | #N/A |
| TPH Aromatic 30-40* | 3.00E-02 | T | 3.00E-02 | 0.03 | - | - | - | - | - | - | - | - | - | #N/A |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Lúdi

## Miscellaneous Chemical Data

| Constituent | Maximum Contaminant Level MCL (mg/L) | ref | Time-Weighted Average Workplace Criteria TWA (mg/m3) | ref | Aquatic Life Prot. Criteria AQL (mg/L) | ref | Biocon-centration Factor (L-wat/kg-fish) |
|---|---|---|---|---|---|---|---|
| Polychlorinated biphenyls (PCB | - | - | - | - | - | - | - |
| Phthalate, bis(2-Ethylhexyl) | 6.00E-03 | 57 FR 31776 (17 Jul 92) | 5.00E+00 | ACGIH | - | - | 850 |
| Biphenyl, 1,1- ** | - | - | - | - | - | - | - |
| Bis (2-ethyl-hexyl) phthalate* | - | - | - | - | - | - | - |
| Diethyl phthalate* | - | - | - | - | - | - | - |
| Dimethylphthalate* | - | - | - | - | - | - | - |
| Di-n-butyl phthalate (dibutyl phth | - | - | - | - | - | - | - |
| Dibenzofuran* | - | - | - | - | - | - | - |
| Dieldrin ** | - | - | 2.50E-01 | NIOSH | 2.50E-03 | 33 | 13000 |
| Endrin* | - | - | - | - | - | - | - |
| Cresol (-m) ** | - | - | 1.00E+01 | NIOSH | - | - | 1 |
| Cresol (-o) ** | - | - | 1.00E+01 | NIOSH | - | - | 1 |
| Cresol (-p)* | - | - | 1.00E+01 | NIOSH | - | - | 1 |
| Formaldehyde ** | - | - | 9.20E-01 | OSHA | - | - | 1 |
| Mercury ** | 2.00E-03 | - | 2.50E-02 | - | 2.10E-03 | 33 | 1 |
| TPH Aliphatic 06-08* | - | - | - | - | - | - | - |
| TPH Aliphatic 08-10* | - | - | - | - | - | - | - |
| TPH Aliphatic 10-12* | - | - | - | - | - | - | - |
| TPH Aliphatic 12-16* | - | - | - | - | - | - | - |
| TPH Aliphatic 10-16* | #N/A | - | #N/A | - | #N/A | - | #N/A |
| TPH Aliphatic 12-22* | - | - | - | - | - | - | - |
| TPH Aliphatic 16-22* | - | - | - | - | - | - | - |
| TPH Aliphatic 22-30 ** | - | - | - | - | - | - | - |
| TPH Aliphatics 30-40** | - | - | - | - | - | - | - |
| TPH Aromatic 07-08* | - | - | - | - | - | - | - |
| TPH Aromatic 08-10* | - | - | - | - | - | - | - |
| TPH Aromatic 10-12* | - | - | - | - | - | - | - |
| TPH Aromatic 12-16* | - | - | - | - | - | - | - |
| TPH Aromatic 10-16** | - | - | - | - | - | - | - |
| TPH Aromatic 12-22* | - | - | - | - | - | - | - |
| TPH Aromatic 16-22** | - | - | - | - | - | - | - |
| TPH Aromatic 22-30* | - | - | - | - | - | - | - |
| TPH Aromatic 30-40* | - | - | - | - | - | - | - |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Lúdi

## CHEMICAL DATA FOR SELECTED COCs

## Miscellaneous Chemical Data

| Constituent | Dermal Relative Absorp. Factor (unitless) | Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr) | Lag time for Dermal Exposure (hr) | Critical Exposure Time (hr) | Relative Contr of Derm Perm Coeff (unitless) | Water/Skin Derm Adsorp Factor (cm/event) | ref | Detection Limits: Groundwater (mg/L) | ref | Soil (mg/kg) | ref | Half Life (First-Order Decay) (days): Saturated | Unsaturated | ref |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Polychlorinated biphenyls (PCB | - | 0.852 | - | - | - | - | - | - | - | - | - | - | - | - |
| Phthalate, bis(2-Ethylhexyl) | 0.5 | - | - | - | - | - | - | 0.01 | 32 | 0.66 | 32 | 389 | 10 | H |
| Biphenyl, 1,1- ** | - | 0.0969 | - | - | - | - | - | - | - | - | - | - | - | - |
| Bis (2-ethyl-hexyl) phthalate* | 0.1 | 0.97 | - | - | - | - | - | - | - | - | - | - | - | - |
| Diethyl phthalate* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Dimethylphthalate* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Di-n-butyl phthalate (dibutyl phtl | - | 0.272 | - | - | - | - | - | - | - | - | - | - | - | - |
| Dibenzofuran* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Dieldrin ** | 0 | - | - | - | - | - | - | - | - | - | - | 2160 | 2160 | H |
| Endrin* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| Cresol (-m) ** | 0.5 | 0.01 | 0.4 | 0.96 | 0.0091 | 3.8E-2 | D | 0.01 | 32 | 0.66 | 32 | 49 | 49 | H |
| Cresol (-o) ** | 0.5 | 0.01 | 0.4 | 0.96 | 0.0089 | 3.8E-2 | D | 0.01 | 32 | 0.66 | 32 | 14 | 14 | H |
| Cresol (-p)* | 0.5 | 0.01 | 0.4 | 0.96 | 0.0087 | 3.8E-2 | D | 0.01 | 32 | 0.66 | 32 | 28 | 28 | H |
| Formaldehyde ** | 0 | 0.0022 | 0.13 | 0.32 | 0.00022 | 7.2E-3 | D | 0.0062 | S | - | - | 14 | 14 | H |
| Mercury ** | 0.1 | - | - | - | - | - | - | 0.0002 | 34 | - | - | - | - | - |
| TPH Aliphatic 06-08* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 08-10* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 10-12* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 12-16* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 10-16* | #N/A | #N/A | #N/A | #N/A | #N/A | - | - | #N/A | - | #N/A | - | #N/A | #N/A | - |
| TPH Aliphatic 12-22* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 16-22* | - | 87.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatic 22-30 ** | - | 22 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aliphatics 30-40** | - | 3.75 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 07-08* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 08-10* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 10-12* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 12-16* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 10-16** | - | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 12-22* | - | ND | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 16-22** | - | 0.111 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 22-30* | - | 0.365 | - | - | - | - | - | - | - | - | - | - | - | - |
| TPH Aromatic 30-40* | - | 0.365 | - | - | - | - | - | - | - | - | - | - | - | - |

* = Chemical with user-specified

Site Name: Can Planas

Site Location: Comercial Lúdi

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 1/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.4E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 1.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 7.0E+1 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.80E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.50E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+4 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 4.13E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 1/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | | | Residential | None | None | | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | >3.9E+0 | | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | 9.1E-1 | | | 1.2E+1 | NA | NA | | 9.1E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | >5.7E-3 | | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | >1.6E-3 | | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | >1.5E-2 | | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | >8.0E-4 | | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | >5.0E-4 | | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | >1.7E+2 | | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | >3.8E-3 | | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | 5.9E+0 | | | >3.1E+1 | NA | NA | | 5.9E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | 1.2E+2 | | | >3.1E+2 | NA | NA | | 1.2E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | 5.6E+1 | | | >5.2E+2 | NA | NA | | 5.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | 2.3E+1 | | | >2.0E+2 | NA | NA | | 2.3E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 1/PAH, BTEX | Date Completed: 1-jun-yy



### SOIL (30 - 100 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.8E+0 | 4.4E+1 | NA | NA | NA | NA | NA | 2.8E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 1.7E+0 | NA | NA | NA | NA | NA | 1.7E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | >6.2E+2 | 3.3E+1 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >2.0E+3 | >2.0E+3 | NA | NA | NA | NA | NA | >2.0E+3 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 3.6E+2 | >7.5E+2 | NA | NA | NA | NA | NA | 3.6E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 2.5E+2 | >5.0E+2 | NA | NA | NA | NA | NA | 2.5E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial Inhalación/Sector 1/VOCs

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.4E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 1.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 7.0E+1 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.80E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.50E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 9.14E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial Inhalación/Sector 1/VOCs | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 5.6E+0 | | 6.5E+1 | NA | NA | | 5.6E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.2E-2 | | 4.9E-1 | NA | NA | | 3.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 9.9E-2 | | 1.5E+0 | NA | NA | | 9.9E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.8E+1 | | 2.3E+2 | NA | NA | | 1.8E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.5E+3 | | >2.0E+4 | NA | NA | | 1.5E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 3.2E-1 | | 4.0E+0 | NA | NA | | 3.2E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.0E+0 | | 4.7E+1 | NA | NA | | 5.0E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 7.9E+1 | | 5.8E+2 | NA | NA | | 7.9E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 4.6E+0 | | 5.4E+1 | NA | NA | | 4.6E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.5E+2 | | 1.8E+3 | NA | NA | | 1.5E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 7.4E-1 | | 7.2E+0 | NA | NA | | 7.4E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.8E+2 | | 3.4E+3 | NA | NA | | 2.8E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.1E+1 | | 1.5E+2 | NA | NA | | 1.1E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 1.8E+1 | | >5.0E+1 | NA | NA | | 1.8E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial Inhalación/Sector 1/VOCs
Date Completed: 1-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >3.0E-1 | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 3.3E+1 | >2.0E+2 | NA | NA | 3.3E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 8.1E+0 | 1.1E+2 | NA | NA | 8.1E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 2.6E+0 | 3.4E+1 | NA | NA | 2.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 1.7E+0 | 2.3E+1 | NA | NA | 1.7E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.6E+1 | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 6.4E+0 | >3.0E+1 | NA | NA | 6.4E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >3.7E+3 | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >1.2E+3 | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >9.8E+2 | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 609-19-8 | Trichlorophenol,3,4,5-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | >1.5E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >3.0E+2 | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.0E+2 | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >2.0E+0 | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 2.2E+2 | >1.3E+3 | NA | NA | 2.2E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 1.6E+0 | 1.5E+1 | NA | NA | 1.6E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 1.2E+0 | 1.7E+1 | NA | NA | 1.2E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial Inhalación/Sector 1/VOCs

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



### SOIL (30 - 100 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | | (mg/kg) | None | None | None | | Residential | | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | | NA | NA | NA | | 6.2E+0 | | 1.1E+2 | NA | NA | NA | NA | NA | 6.2E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | | NA | NA | NA | | 7.8E-1 | | 1.5E+1 | NA | NA | NA | NA | NA | 7.8E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | | NA | NA | NA | | 2.9E+2 | | >3.8E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | | NA | NA | NA | | 2.0E+2 | | >3.7E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrach | | | NA | NA | NA | | 9.2E-1 | | 1.7E+1 | NA | NA | NA | NA | NA | 9.2E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | | NA | NA | NA | | 3.0E+1 | | 5.5E+2 | NA | NA | NA | NA | NA | 3.0E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | | NA | NA | NA | | >5.7E+3 | | >5.7E+3 | NA | NA | NA | NA | NA | >5.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | | NA | NA | NA | | 6.0E-1 | | 1.1E+1 | NA | NA | NA | NA | NA | 6.0E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | | NA | NA | NA | | 5.3E+1 | | 9.9E+2 | NA | NA | NA | NA | NA | 5.3E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | | NA | NA | NA | | 2.2E+2 | | 3.3E+2 | NA | NA | NA | NA | NA | 2.2E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | | NA | NA | NA | | >4.9E+4 | | 2.9E+3 | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | | NA | NA | NA | | >3.7E+4 | | 3.0E+3 | NA | NA | NA | NA | NA | 3.0E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | | NA | NA | NA | | >4.5E+1 | | 4.5E+1 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | | NA | NA | NA | | 1.5E+3 | | 2.2E+3 | NA | NA | NA | NA | NA | 1.5E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | | NA | NA | NA | | 3.4E+1 | | 8.8E+1 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | | NA | NA | NA | | >9.3E+2 | | >9.3E+2 | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | | NA | NA | NA | | 3.0E+2 | | >2.3E+3 | NA | NA | NA | NA | NA | 3.0E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | | NA | NA | NA | | 5.3E-1 | | 9.9E+0 | NA | NA | NA | NA | NA | 5.3E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | | NA | NA | NA | | 4.7E+2 | | >1.9E+3 | NA | NA | NA | NA | NA | 4.7E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | | NA | NA | NA | | 3.3E+1 | | 6.2E+2 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | | NA | NA | NA | | 6.3E+3 | | 7.7E+2 | NA | NA | NA | NA | NA | 7.7E+2 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | | NA | NA | NA | | >1.7E+0 | | 1.4E+0 | NA | NA | NA | NA | NA | 1.4E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | | NA | NA | NA | | 1.9E+2 | | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | | NA | NA | NA | | >5.7E+3 | | 9.6E+2 | NA | NA | NA | NA | NA | 9.6E+2 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | | NA | NA | NA | | 1.5E+2 | | >3.4E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | | NA | NA | NA | | 2.6E+1 | | 4.8E+2 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | | NA | NA | NA | | 8.5E+0 | | 7.7E+1 | NA | NA | NA | NA | NA | 8.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | | NA | NA | NA | | 5.4E+0 | | 6.6E+1 | NA | NA | NA | NA | NA | 5.4E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | | NA | NA | NA | | >1.5E+3 | | 6.6E+2 | NA | NA | NA | NA | NA | 6.6E+2 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | | NA | NA | NA | | 3.3E+2 | | 8.5E+1 | NA | NA | NA | NA | NA | 8.5E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | | NA | NA | NA | | 3.9E+2 | | 4.4E+2 | NA | NA | NA | NA | NA | 3.9E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | | NA | NA | NA | | >9.0E+3 | | 7.9E+3 | NA | NA | NA | NA | NA | 7.9E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | | NA | NA | NA | | >3.6E+3 | | 3.0E+3 | NA | NA | NA | NA | NA | 3.0E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | | NA | NA | NA | | >1.4E+3 | | 2.6E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 609-19-8 | Trichlorophenol,3,4,5-* | | | NA | NA | NA | | >5.0E+4 | | 3.4E+4 | NA | NA | NA | NA | NA | 3.4E+4 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | | NA | NA | NA | | >1.1E+2 | | >1.1E+2 | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | | NA | NA | NA | | >6.6E-1 | | >6.6E-1 | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | | NA | NA | NA | | 1.3E+3 | | >3.8E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | | NA | NA | NA | | 8.6E-1 | | 1.6E+1 | NA | NA | NA | NA | NA | 8.6E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | | NA | NA | NA | | 1.4E+1 | | 2.6E+2 | NA | NA | NA | NA | NA | 1.4E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 1/varias familias

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.4E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 1.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 7.0E+1 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.80E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.50E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 9.14E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial INHALACIÓN/Sector 1/varias familias
Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 3.2E-1 | >7.0E-1 | NA | NA | 3.2E-1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 3.9E+0 | >7.5E+0 | NA | NA | 3.9E+0 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 85-68-7 | Butyl benzyl phthalate* | | NA | NA | NA | >2.7E+0 | >2.7E+0 | NA | NA | >2.7E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 1.3E+4 | >2.6E+4 | NA | NA | 1.3E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 2.3E+3 | 1.3E+4 | NA | NA | 2.3E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 1.3E+4 | >3.5E+4 | NA | NA | 1.3E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.3E+3 | 5.4E+3 | NA | NA | 1.3E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 2.2E+1 | >6.5E+1 | NA | NA | 2.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 1/varias familias
Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 1/varias familias | Date Completed: 1-jun-yy



### SOIL (30 - 100 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 6.3E+2 | 2.9E+1 | NA | NA | NA | NA | NA | 2.9E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 1.4E+2 | 3.3E+1 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | 6.5E+2 | NA | NA | NA | NA | NA | 6.5E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.6E+3 | 2.2E+2 | NA | NA | NA | NA | NA | 2.2E+2 | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 2.3E+0 | NA | NA | NA | NA | NA | 2.3E+0 | ☐ | NA |
| 85-68-7 | Butyl benzyl phthalate* | | NA | NA | NA | >3.7E+2 | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | 1.0E+3 | NA | NA | NA | NA | NA | 1.0E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 9.9E+3 | 6.6E+2 | NA | NA | NA | NA | NA | 6.6E+2 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.8E+3 | 3.2E+2 | NA | NA | NA | NA | NA | 3.2E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 9.3E+3 | 6.4E+2 | NA | NA | NA | NA | NA | 6.4E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 9.9E+1 | 2.0E+1 | NA | NA | NA | NA | NA | 2.0E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 1.2E+2 | >1.0E+3 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 5.4E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 5.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >1.4E+2 | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 2/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.3E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.2E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.2E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.0E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.0E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.83E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.80E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 9.97E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 2/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 9.7E-1 | 1.6E+1 | NA | NA | 9.7E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 6.7E+0 | >3.1E+1 | NA | NA | 6.7E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 1.3E+2 | >3.1E+2 | NA | NA | 1.3E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 6.0E+1 | >5.2E+2 | NA | NA | 6.0E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 2.4E+1 | >2.0E+2 | NA | NA | 2.4E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 2/PAH, BTEX | Date Completed: 1-jun-yy



## SOIL (30 - 2000 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | 2.0E+0 | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | 5.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | 8.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | 9.0E+0 | | NA | NA | NA | 2.1E-1 | 1.9E+0 | NA | NA | NA | NA | NA | 2.1E-1 | ■ | 4.4E+1 |
| 56-55-3 | Benzo(a)Anthracene ** | 7.0E+0 | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | 8.0E+0 | | NA | NA | NA | >1.7E+1 | 2.0E+0 | NA | NA | NA | NA | NA | 2.0E+0 | ■ | 4.0E+0 |
| 205-99-2 | Benzo(b)Fluoranthene ** | 7.0E+0 | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | 4.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | 7.0E+0 | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | 8.0E+0 | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | 1.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | 5.6E+1 | | NA | NA | NA | 2.3E+2 | 4.7E+2 | NA | NA | NA | NA | NA | 2.3E+2 | ☐ | <1 |
| 86-73-7 | Fluorene ** | 7.6E+1 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | 8.0E+0 | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | 8.0E+0 | | NA | NA | NA | 7.5E+1 | 2.7E+1 | NA | NA | NA | NA | NA | 2.7E+1 | ☐ | <1 |
| 85-01-8 | Phenanthrene ** | 5.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | 8.0E+0 | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | 7.0E+0 | | NA | NA | NA | 3.0E+2 | 1.2E+2 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | <1 |
| 108-88-3 | Toluene* | 8.0E+0 | | NA | NA | NA | 2.6E+1 | 1.2E+2 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | <1 |
| 1330-20-7 | Xylene (mixed isomers) ** | 4.0E+0 | | NA | NA | NA | 1.8E+1 | 4.7E+1 | NA | NA | NA | NA | NA | 1.8E+1 | ☐ | <1 |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 2/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.3E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.2E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.2E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.0E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.0E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.83E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.80E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 9.97E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 2/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2000 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 6.2E+0 | 4.7E+0 | NA | NA | NA | NA | NA | 4.7E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 2.8E-2 | 6.2E-1 | NA | NA | NA | NA | NA | 2.8E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | 1.3E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | 2.9E+2 | 1.3E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | 2.0E+2 | 1.3E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 5.0E-2 | 7.3E-1 | NA | NA | NA | NA | NA | 5.0E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 1.5E+1 | 2.4E+1 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 2.1E+2 | 4.7E+3 | NA | NA | NA | NA | NA | 2.1E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.1E-1 | 4.8E-1 | NA | NA | NA | NA | NA | 1.1E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.9E+0 | 4.2E+1 | NA | NA | NA | NA | NA | 1.9E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 2.2E+2 | 7.8E+1 | NA | NA | NA | NA | NA | 7.8E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.9E+4 | 3.5E+3 | NA | NA | NA | NA | NA | 3.5E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >3.7E+4 | 3.5E+3 | NA | NA | NA | NA | NA | 3.5E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | 1.5E+3 | 5.1E+2 | NA | NA | NA | NA | NA | 5.1E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 3.4E+1 | 1.2E+1 | NA | NA | NA | NA | NA | 1.2E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.3E+2 | 5.3E+2 | NA | NA | NA | NA | NA | 5.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 2.2E+1 | 2.4E+2 | NA | NA | NA | NA | NA | 2.2E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 2.6E-1 | 4.2E-1 | NA | NA | NA | NA | NA | 2.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 4.5E+1 | 3.7E+2 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.1E+0 | 2.6E+1 | NA | NA | NA | NA | NA | 2.1E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | 6.3E+3 | 9.2E+2 | NA | NA | NA | NA | NA | 9.2E+2 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | 1.7E+0 | NA | NA | NA | NA | NA | 1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 1.8E+2 | 1.4E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 1.1E+3 | NA | NA | NA | NA | NA | 1.1E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 1.5E+1 | 1.2E+2 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.1E+0 | 2.0E+1 | NA | NA | NA | NA | NA | 4.1E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 8.5E+0 | 3.3E+0 | NA | NA | NA | NA | NA | 3.3E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 5.4E+0 | 2.8E+0 | NA | NA | NA | NA | NA | 2.8E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | 7.9E+2 | NA | NA | NA | NA | NA | 7.9E+2 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 3.3E+2 | 1.0E+2 | NA | NA | NA | NA | NA | 1.0E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | 3.9E+2 | 1.4E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.0E+3 | >9.0E+3 | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.6E+3 | >3.6E+3 | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.4E+3 | 3.1E+2 | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.1E+2 | >1.1E+2 | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >6.6E-1 | >6.6E-1 | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 1.8E+2 | 1.0E+3 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 7.8E-2 | 6.9E-1 | NA | NA | NA | NA | NA | 7.8E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 4.9E-1 | 1.1E+1 | NA | NA | NA | NA | NA | 4.9E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 2/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 6.2E+0 | | 9.1E+1 | NA | NA | | 6.2E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.4E-2 | | 6.2E-1 | NA | NA | | 3.4E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.0E-1 | | 1.9E+0 | NA | NA | | 1.0E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 2.0E+1 | | 3.1E+2 | NA | NA | | 2.0E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.7E+3 | | >2.0E+4 | NA | NA | | 1.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 3.5E-1 | | 5.5E+0 | NA | NA | | 3.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.7E+0 | | 7.2E+1 | NA | NA | | 5.7E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 9.2E+1 | | 9.9E+2 | NA | NA | | 9.2E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 5.1E+0 | | 7.6E+1 | NA | NA | | 5.1E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.6E+2 | | 2.5E+3 | NA | NA | | 1.6E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 8.3E-1 | | 1.1E+1 | NA | NA | | 8.3E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 3.1E+2 | | 4.7E+3 | NA | NA | | 3.1E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.2E+1 | | 2.0E+2 | NA | NA | | 1.2E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 2.3E+1 | | >5.0E+1 | NA | NA | | 2.3E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial INHALACIÓN/Sector 2/VOCs
Date Completed: 17-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 3.5E+1 | | >2.0E+2 | NA | NA | | 3.5E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 8.6E+0 | | 1.5E+2 | NA | NA | | 8.6E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.8E+0 | | 4.5E+1 | NA | NA | | 2.8E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.8E+0 | | 3.0E+1 | NA | NA | | 1.8E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 7.4E+0 | | >3.0E+1 | NA | NA | | 7.4E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 2.4E+2 | | >1.3E+3 | NA | NA | | 2.4E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 1.8E+0 | | 2.2E+1 | NA | NA | | 1.8E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.3E+0 | | 2.2E+1 | NA | NA | | 1.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial interior/Sector 2/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.3E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.2E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.2E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.0E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.0E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.83E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.80E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 9.97E+0 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial interior/Sector 2/varias familias
Date Completed: 17-jun-yy


## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | 3.7E-1 | | >7.0E-1 | NA | NA | | 3.7E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | 4.5E+0 | | >7.5E+0 | NA | NA | | 4.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | 1.4E+4 | | >2.6E+4 | NA | NA | | 1.4E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 2.7E+3 | | >1.3E+4 | NA | NA | | 2.7E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | 1.4E+4 | | >3.5E+4 | NA | NA | | 1.4E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 1.4E+3 | | 1.1E+4 | NA | NA | | 1.4E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 2.5E-1 | | 4.6E+0 | NA | NA | | 2.5E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | 2.6E+1 | | >1.3E+2 | NA | NA | | 2.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | 2.4E+1 | | >6.5E+1 | NA | NA | | 2.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial interior/Sector 2/varias familias | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | 9.0E+0 | | >9.3E+0 | NA | NA | | 9.0E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial interior/Sector 2/varias familias
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 2000 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 6.3E+2 | 3.5E+1 | NA | NA | NA | NA | NA | 3.5E+1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 1.4E+2 | 3.9E+1 | NA | NA | NA | NA | NA | 3.9E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | 7.8E+2 | NA | NA | NA | NA | NA | 7.8E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.6E+3 | 2.7E+2 | NA | NA | NA | NA | NA | 2.7E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 2.7E+0 | NA | NA | NA | NA | NA | 2.7E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 9.9E+3 | 7.9E+2 | NA | NA | NA | NA | NA | 7.9E+2 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.8E+3 | 3.8E+2 | NA | NA | NA | NA | NA | 3.8E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 9.3E+3 | 7.7E+2 | NA | NA | NA | NA | NA | 7.7E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 9.9E+1 | 2.4E+1 | NA | NA | NA | NA | NA | 2.4E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 3.9E+0 | 8.7E+1 | NA | NA | NA | NA | NA | 3.9E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 6.2E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 6.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 8.0E+1 | 1.9E+2 | NA | NA | NA | NA | NA | 8.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 9.7E+1 | 9.4E+1 | NA | NA | NA | NA | NA | 9.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 5.4E+2 | 1.9E+2 | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 1.4E+2 | 4.8E+1 | NA | NA | NA | NA | NA | 4.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 GM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 5.0E-1 | | 1.1E+1 | NA | NA | | 5.0E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | 1.1E+2 | | >1.7E+2 | NA | NA | | 1.1E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 2.4E+0 | | >3.1E+1 | NA | NA | | 2.4E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | 6.7E+1 | | >3.1E+2 | NA | NA | | 6.7E+1 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 3.1E+1 | | >5.2E+2 | NA | NA | | 3.1E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 1.2E+1 | | >2.0E+2 | NA | NA | | 1.2E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/PAH, BTEX | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 7.3E-2 | 6.8E+0 | NA | NA | NA | NA | NA | 7.3E-2 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 7.5E+0 | NA | NA | NA | NA | NA | 7.5E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 4.3E+1 | >6.2E+2 | NA | NA | NA | NA | NA | 4.3E+1 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.3E+1 | 7.1E+1 | NA | NA | NA | NA | NA | 1.3E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 5.6E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 5.6E+1 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 5.0E+0 | 4.4E+2 | NA | NA | NA | NA | NA | 5.0E+0 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 3.3E+0 | 1.7E+2 | NA | NA | NA | NA | NA | 3.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 3.1E+0 | | 6.4E+1 | NA | NA | | 3.1E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 1.6E-2 | | 3.6E-1 | NA | NA | | 1.6E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 5.1E-2 | | 1.1E+0 | NA | NA | | 5.1E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.0E+1 | | 2.1E+2 | NA | NA | | 1.0E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 8.9E+2 | | 1.8E+4 | NA | NA | | 8.9E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 1.8E-1 | | 3.8E+0 | NA | NA | | 1.8E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 2.6E+0 | | 4.8E+1 | NA | NA | | 2.6E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 2.8E+1 | | 5.5E+2 | NA | NA | | 2.8E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | 2.4E+4 | | >4.1E+4 | NA | NA | | 2.4E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | 2.2E+4 | | >2.9E+4 | NA | NA | | 2.2E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 8.2E+1 | | >1.5E+2 | NA | NA | | 8.2E+1 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 2.5E+0 | | 5.3E+1 | NA | NA | | 2.5E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 8.1E+1 | | 1.7E+3 | NA | NA | | 8.1E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 3.9E-1 | | 7.4E+0 | NA | NA | | 3.9E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 1.6E+2 | | 3.3E+3 | NA | NA | | 1.6E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 6.1E+0 | | 1.3E+2 | NA | NA | | 6.1E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 1.7E+3 | | >6.2E+3 | NA | NA | | 1.7E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 8.1E+0 | | >5.0E+1 | NA | NA | | 8.1E+0 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >3.0E-1 | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 1.7E+1 | >2.0E+2 | NA | NA | 1.7E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.4E+0 | 9.4E+1 | NA | NA | 4.4E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 1.4E+0 | 3.1E+1 | NA | NA | 1.4E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 9.1E-1 | 2.0E+1 | NA | NA | 9.1E-1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.6E+1 | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 2.5E+0 | >3.0E+1 | NA | NA | 2.5E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | 1.7E+1 | >1.8E+1 | NA | NA | 1.7E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >3.7E+3 | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >1.2E+3 | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | 3.2E+2 | >9.8E+2 | NA | NA | 3.2E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >3.0E+2 | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.0E+2 | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >2.0E+0 | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 1.2E+2 | >1.3E+3 | NA | NA | 1.2E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 7.6E-1 | 1.5E+1 | NA | NA | 7.6E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 6.3E-1 | 1.3E+1 | NA | NA | 6.3E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Residential | | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.1E+0 | | 4.2E+0 | NA | NA | NA | NA | NA | 1.1E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 2.4E-2 | | 5.5E-1 | NA | NA | NA | NA | NA | 2.4E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | 6.4E+1 | | 1.1E+2 | NA | NA | NA | NA | NA | 6.4E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | 4.8E+1 | | 1.1E+2 | NA | NA | NA | NA | NA | 4.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | 3.3E+1 | | 1.1E+2 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 2.8E-2 | | 6.5E-1 | NA | NA | NA | NA | NA | 2.8E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 2.8E+0 | | 2.1E+1 | NA | NA | NA | NA | NA | 2.8E+0 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.8E+2 | | 4.2E+3 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 2.4E-2 | | 4.2E-1 | NA | NA | NA | NA | NA | 2.4E-2 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 1.6E+0 | | 3.7E+1 | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 3.4E+1 | | 5.0E+1 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | 1.4E+4 | | 3.6E+3 | NA | NA | NA | NA | NA | 3.6E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | 1.4E+4 | | 3.6E+3 | NA | NA | NA | NA | NA | 3.6E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | 4.5E+1 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 2.7E+2 | | 3.3E+2 | NA | NA | NA | NA | NA | 2.7E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 6.3E+0 | | 7.9E+0 | NA | NA | NA | NA | NA | 6.3E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | 2.8E+2 | | 3.4E+2 | NA | NA | NA | NA | NA | 2.8E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 9.1E+0 | | 2.1E+2 | NA | NA | NA | NA | NA | 9.1E+0 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 5.5E-2 | | 3.7E-1 | NA | NA | NA | NA | NA | 5.5E-2 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 1.4E+1 | | 3.3E+2 | NA | NA | NA | NA | NA | 1.4E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.0E+0 | | 2.3E+1 | NA | NA | NA | NA | NA | 1.0E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 1.0E+3 | | 7.7E+2 | NA | NA | NA | NA | NA | 7.7E+2 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | 1.0E+0 | | 1.3E+0 | NA | NA | NA | NA | NA | 1.0E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 3.4E+1 | | 8.9E+1 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | 1.1E+3 | NA | NA | NA | NA | NA | 1.1E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 4.6E+0 | | 1.0E+2 | NA | NA | NA | NA | NA | 4.6E+0 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 7.9E-1 | | 1.8E+1 | NA | NA | NA | NA | NA | 7.9E-1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 1.5E+0 | | 2.9E+0 | NA | NA | NA | NA | NA | 1.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 9.4E-1 | | 2.5E+0 | NA | NA | NA | NA | NA | 9.4E-1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | 3.9E+2 | | 5.1E+2 | NA | NA | NA | NA | NA | 3.9E+2 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 4.5E+1 | | 8.0E+1 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | 6.9E+1 | | 9.1E+1 | NA | NA | NA | NA | NA | 6.9E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >8.8E+3 | | >8.8E+3 | NA | NA | NA | NA | NA | >8.8E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.5E+3 | | 3.0E+3 | NA | NA | NA | NA | NA | 3.0E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 1.9E+2 | | 2.5E+2 | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | NA | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >5.2E-1 | | >5.2E-1 | NA | NA | NA | NA | NA | >5.2E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 4.0E+1 | | 9.1E+2 | NA | NA | NA | NA | NA | 4.0E+1 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.7E-2 | | 6.1E-1 | NA | NA | NA | NA | NA | 2.7E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 4.3E-1 | | 9.7E+0 | NA | NA | NA | NA | NA | 4.3E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 GM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 1.5E-1 | >7.0E-1 | NA | NA | 1.5E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 1.5E+0 | >7.5E+0 | NA | NA | 1.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 1.8E+3 | >4.2E+3 | NA | NA | 1.8E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | 1.3E-1 | >2.0E-1 | NA | NA | 1.3E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 3.9E+3 | >2.6E+4 | NA | NA | 3.9E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 6.6E+2 | 1.0E+4 | NA | NA | 6.6E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 3.9E+3 | >3.5E+4 | NA | NA | 3.9E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 5.5E+2 | 6.1E+3 | NA | NA | 5.5E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 1.2E-1 | 2.6E+0 | NA | NA | 1.2E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 4.1E-1 | >4.3E-1 | NA | NA | 4.1E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 1.3E+1 | >1.3E+2 | NA | NA | 1.3E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 1.2E+1 | >6.5E+1 | NA | NA | 1.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 GM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | 4.6E+0 | | >9.3E+0 | NA | NA | | 4.6E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/varias fam | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 2.5E+2 | 1.2E+2 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 4.0E+1 | 1.3E+2 | NA | NA | NA | NA | NA | 4.0E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.6E+3 | >1.6E+3 | NA | NA | NA | NA | NA | >1.6E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 5.0E+2 | 9.1E+2 | NA | NA | NA | NA | NA | 5.0E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | 3.0E+1 | 9.1E+0 | NA | NA | NA | NA | NA | 9.1E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 3.2E+3 | 3.0E+3 | NA | NA | NA | NA | NA | 3.0E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 5.5E+2 | 1.3E+3 | NA | NA | NA | NA | NA | 5.5E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 3.0E+3 | 2.9E+3 | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.6E+1 | 2.5E+1 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.6E-3 | >6.6E-3 | NA | NA | NA | NA | NA | >6.6E-3 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 5.8E+0 | >2.5E+2 | NA | NA | NA | NA | NA | 5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 3.1E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 3.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 3.1E+1 | 6.8E+2 | NA | NA | NA | NA | NA | 3.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 3.8E+1 | 3.4E+2 | NA | NA | NA | NA | NA | 3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 2.1E+2 | 5.0E+2 | NA | NA | NA | NA | NA | 2.1E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 5.4E+1 | 1.3E+2 | NA | NA | NA | NA | NA | 5.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/PAH, BTEX | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 8.7E-1 | 1.1E+1 | NA | NA | 8.7E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 4.2E+0 | >3.1E+1 | NA | NA | 4.2E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 1.2E+2 | >3.1E+2 | NA | NA | 1.2E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 5.3E+1 | >5.2E+2 | NA | NA | 5.3E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 2.2E+1 | >2.0E+2 | NA | NA | 2.2E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/PAH, BTEX | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 1.3E-1 | 6.8E+0 | NA | NA | NA | NA | NA | 1.3E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 7.5E+0 | NA | NA | NA | NA | NA | 7.5E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 7.5E+1 | >6.2E+2 | NA | NA | NA | NA | NA | 7.5E+1 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 2.2E+1 | 7.1E+1 | NA | NA | NA | NA | NA | 2.2E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 9.7E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 9.7E+1 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 8.7E+0 | 4.4E+2 | NA | NA | NA | NA | NA | 8.7E+0 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 5.7E+0 | 1.7E+2 | NA | NA | NA | NA | NA | 5.7E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 5.3E+0 | | 6.4E+1 | NA | NA | | 5.3E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 2.8E-2 | | 3.6E-1 | NA | NA | | 2.8E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 8.9E-2 | | 1.1E+0 | NA | NA | | 8.9E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.7E+1 | | 2.1E+2 | NA | NA | | 1.7E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.5E+3 | | 1.8E+4 | NA | NA | | 1.5E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 3.2E-1 | | 3.8E+0 | NA | NA | | 3.2E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 4.6E+0 | | 4.8E+1 | NA | NA | | 4.6E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 4.9E+1 | | 5.5E+2 | NA | NA | | 4.9E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | 4.1E+4 | | >4.1E+4 | NA | NA | | 4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 1.4E+2 | | >1.5E+2 | NA | NA | | 1.4E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 4.4E+0 | | 5.3E+1 | NA | NA | | 4.4E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.4E+2 | | 1.7E+3 | NA | NA | | 1.4E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 6.7E-1 | | 7.4E+0 | NA | NA | | 6.7E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.7E+2 | | 3.3E+3 | NA | NA | | 2.7E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.1E+1 | | 1.3E+2 | NA | NA | | 1.1E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 3.0E+3 | | >6.2E+3 | NA | NA | | 3.0E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 1.4E+1 | | >5.0E+1 | NA | NA | | 1.4E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 3.0E+1 | | >2.0E+2 | NA | NA | | 3.0E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 7.6E+0 | | 9.4E+1 | NA | NA | | 7.6E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.5E+0 | | 3.1E+1 | NA | NA | | 2.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.6E+0 | | 2.0E+1 | NA | NA | | 1.6E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 4.3E+0 | | >3.0E+1 | NA | NA | | 4.3E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 5.6E+2 | | >9.8E+2 | NA | NA | | 5.6E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 2.0E+2 | | >1.3E+3 | NA | NA | | 2.0E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 1.3E+0 | | 1.5E+1 | NA | NA | | 1.3E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.1E+0 | | 1.3E+1 | NA | NA | | 1.1E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Residential | | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.9E+0 | | 1.7E+1 | NA | NA | NA | NA | NA | 1.9E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 4.2E-2 | | 2.2E+0 | NA | NA | NA | NA | NA | 4.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | 1.1E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | 8.3E+1 | | >3.8E+2 | NA | NA | NA | NA | NA | 8.3E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | 5.8E+1 | | >3.7E+2 | NA | NA | NA | NA | NA | 5.8E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 4.9E-2 | | 2.7E+0 | NA | NA | NA | NA | NA | 4.9E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 4.8E+0 | | 8.5E+1 | NA | NA | NA | NA | NA | 4.8E+0 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 3.1E+2 | | >4.2E+3 | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 4.2E-2 | | 1.7E+0 | NA | NA | NA | NA | NA | 4.2E-2 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 2.8E+0 | | 1.5E+2 | NA | NA | NA | NA | NA | 2.8E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 5.9E+1 | | 2.1E+2 | NA | NA | NA | NA | NA | 5.9E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | 2.5E+4 | | 1.5E+4 | NA | NA | NA | NA | NA | 1.5E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | 2.5E+4 | | 1.5E+4 | NA | NA | NA | NA | NA | 1.5E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 4.6E+2 | | 1.4E+3 | NA | NA | NA | NA | NA | 4.6E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 1.1E+1 | | 3.2E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | 4.8E+2 | | >9.2E+2 | NA | NA | NA | NA | NA | 4.8E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.6E+1 | | 8.5E+2 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 9.5E-2 | | 1.5E+0 | NA | NA | NA | NA | NA | 9.5E-2 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.5E+1 | | 1.3E+3 | NA | NA | NA | NA | NA | 2.5E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.8E+0 | | 9.5E+1 | NA | NA | NA | NA | NA | 1.8E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 1.8E+3 | | 3.1E+3 | NA | NA | NA | NA | NA | 1.8E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 5.9E+1 | | 3.7E+2 | NA | NA | NA | NA | NA | 5.9E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | 4.7E+3 | NA | NA | NA | NA | NA | 4.7E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 7.9E+0 | | >3.3E+2 | NA | NA | NA | NA | NA | 7.9E+0 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 1.4E+0 | | 7.4E+1 | NA | NA | NA | NA | NA | 1.4E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.6E+0 | | 1.2E+1 | NA | NA | NA | NA | NA | 2.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.6E+0 | | 1.0E+1 | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | 6.7E+2 | | >1.5E+3 | NA | NA | NA | NA | NA | 6.7E+2 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 7.7E+1 | | 3.3E+2 | NA | NA | NA | NA | NA | 7.7E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | 1.2E+2 | | 3.7E+2 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >8.8E+3 | | >8.8E+3 | NA | NA | NA | NA | NA | >8.8E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.5E+3 | | >3.5E+3 | NA | NA | NA | NA | NA | >3.5E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 3.3E+2 | | 1.0E+3 | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | NA | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >5.2E-1 | | >5.2E-1 | NA | NA | NA | NA | NA | >5.2E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 6.9E+1 | | >3.7E+3 | NA | NA | NA | NA | NA | 6.9E+1 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 4.6E-2 | | 2.5E+0 | NA | NA | NA | NA | NA | 4.6E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 7.3E-1 | | 4.0E+1 | NA | NA | NA | NA | NA | 7.3E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.03E+3 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 2.5E-1 | >7.0E-1 | NA | NA | 2.5E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 2.6E+0 | >7.5E+0 | NA | NA | 2.6E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 3.1E+3 | >4.2E+3 | NA | NA | 3.1E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 6.6E+3 | >2.6E+4 | NA | NA | 6.6E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.1E+3 | 1.0E+4 | NA | NA | 1.1E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 6.6E+3 | >3.5E+4 | NA | NA | 6.6E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 9.6E+2 | 6.1E+3 | NA | NA | 9.6E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 2.1E-1 | 2.6E+0 | NA | NA | 2.1E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 2.3E+1 | >1.3E+2 | NA | NA | 2.3E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 2.1E+1 | >6.5E+1 | NA | NA | 2.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/varias familias Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | 8.0E+0 | | >9.3E+0 | NA | NA | | 8.0E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 GM/varias fam | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 2.5E+2 | 1.2E+2 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 4.0E+1 | 1.3E+2 | NA | NA | NA | NA | NA | 4.0E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.6E+3 | >1.6E+3 | NA | NA | NA | NA | NA | >1.6E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 5.0E+2 | 9.1E+2 | NA | NA | NA | NA | NA | 5.0E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | 3.0E+1 | 9.1E+0 | NA | NA | NA | NA | NA | 9.1E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 3.2E+3 | 3.0E+3 | NA | NA | NA | NA | NA | 3.0E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 5.5E+2 | 1.3E+3 | NA | NA | NA | NA | NA | 5.5E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 3.0E+3 | 2.9E+3 | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.6E+1 | 2.5E+1 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.6E-3 | >6.6E-3 | NA | NA | NA | NA | NA | >6.6E-3 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 5.8E+0 | >2.5E+2 | NA | NA | NA | NA | NA | 5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 3.1E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 3.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 3.1E+1 | 6.8E+2 | NA | NA | NA | NA | NA | 3.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 3.8E+1 | 3.4E+2 | NA | NA | NA | NA | NA | 3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 2.1E+2 | 5.0E+2 | NA | NA | NA | NA | NA | 2.1E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 5.4E+1 | 1.3E+2 | NA | NA | NA | NA | NA | 5.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN P1/Sector 4 SM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Residencial INHALACIÓN P1/Sector 4 SM/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 1.6E+0 | | 1.5E+1 | NA | NA | | 1.6E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 1.0E+1 | | >3.1E+1 | NA | NA | | 1.0E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | 2.1E+2 | | >3.1E+2 | NA | NA | | 2.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 9.6E+1 | | >5.2E+2 | NA | NA | | 9.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 3.9E+1 | | >2.0E+2 | NA | NA | | 3.9E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN P1/Sector 4 SM/PAH, BTEX | Date Completed: 17-jun-yy



## SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 3.5E-1 | 6.8E+0 | NA | NA | NA | NA | NA | 3.5E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 8.4E+0 | NA | NA | NA | NA | NA | 8.4E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 3.9E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 3.9E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.3E+2 | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 5.2E+2 | 4.4E+2 | NA | NA | NA | NA | NA | 4.4E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 4.4E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 4.4E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 3.1E+1 | 1.7E+2 | NA | NA | NA | NA | NA | 3.1E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 9.7E+0 | | 7.8E+1 | NA | NA | | 9.7E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 5.6E-2 | | 5.9E-1 | NA | NA | | 5.6E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.7E-1 | | 1.8E+0 | NA | NA | | 1.7E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 3.1E+1 | | 2.8E+2 | NA | NA | | 3.1E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 2.7E+3 | | >2.0E+4 | NA | NA | | 2.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 5.5E-1 | | 4.9E+0 | NA | NA | | 5.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 8.7E+0 | | 5.7E+1 | NA | NA | | 8.7E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 1.4E+2 | | 7.0E+2 | NA | NA | | 1.4E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 8.0E+0 | | 6.6E+1 | NA | NA | | 8.0E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 2.5E+2 | | 2.2E+3 | NA | NA | | 2.5E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 1.3E+0 | | 8.7E+0 | NA | NA | | 1.3E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 4.9E+2 | | 4.1E+3 | NA | NA | | 4.9E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.9E+1 | | 1.8E+2 | NA | NA | | 1.9E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 3.0E+1 | | >5.0E+1 | NA | NA | | 3.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 5.6E+1 | | >2.0E+2 | NA | NA | | 5.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 1.4E+1 | | 1.4E+2 | NA | NA | | 1.4E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 4.5E+0 | | 4.1E+1 | NA | NA | | 4.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 2.9E+0 | | 2.8E+1 | NA | NA | | 2.9E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.1E+1 | | >3.0E+1 | NA | NA | | 1.1E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 3.9E+2 | | >1.3E+3 | NA | NA | | 3.9E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.7E+0 | | 1.8E+1 | NA | NA | | 2.7E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 2.0E+0 | | 2.1E+1 | NA | NA | | 2.0E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Construction Worker | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Residential | | Residential | | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.1E+1 | | 1.7E+1 | | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 4.2E-2 | | 2.2E+0 | | NA | NA | NA | NA | NA | 4.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >3.8E+2 | | >3.8E+2 | | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | 3.4E+2 | | >3.7E+2 | | NA | NA | NA | NA | NA | 3.4E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 8.5E-2 | | 2.7E+0 | | NA | NA | NA | NA | NA | 8.5E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 2.6E+1 | | 8.5E+1 | | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 3.1E+2 | | >5.7E+3 | | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 1.9E-1 | | 1.7E+0 | | NA | NA | NA | NA | NA | 1.9E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 2.8E+0 | | 1.5E+2 | | NA | NA | NA | NA | NA | 2.8E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 3.8E+2 | | 3.3E+2 | | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.9E+4 | | 1.4E+4 | | NA | NA | NA | NA | NA | 1.4E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >3.7E+4 | | 1.5E+4 | | NA | NA | NA | NA | NA | 1.5E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 2.5E+3 | | 2.1E+3 | | NA | NA | NA | NA | NA | 2.1E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 5.9E+1 | | 5.0E+1 | | NA | NA | NA | NA | NA | 5.0E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >9.3E+2 | | >9.3E+2 | | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 3.8E+1 | | 8.5E+2 | | NA | NA | NA | NA | NA | 3.8E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 4.6E-1 | | 1.5E+0 | | NA | NA | NA | NA | NA | 4.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 7.7E+1 | | 1.3E+3 | | NA | NA | NA | NA | NA | 7.7E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 3.6E+0 | | 9.5E+1 | | NA | NA | NA | NA | NA | 3.6E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >7.7E+3 | | 3.9E+3 | | NA | NA | NA | NA | NA | 3.9E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 3.1E+2 | | 5.7E+2 | | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | 4.8E+3 | | NA | NA | NA | NA | NA | 4.8E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 2.6E+1 | | >3.4E+2 | | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 7.0E+0 | | 7.4E+1 | | NA | NA | NA | NA | NA | 7.0E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 1.5E+1 | | 1.2E+1 | | NA | NA | NA | NA | NA | 1.2E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 9.3E+0 | | 1.0E+1 | | NA | NA | NA | NA | NA | 9.3E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.5E+3 | | >1.5E+3 | | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 5.7E+2 | | 4.3E+2 | | NA | NA | NA | NA | NA | 4.3E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >4.6E+2 | | >4.6E+2 | | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >9.0E+3 | | >9.0E+3 | | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.6E+3 | | >3.6E+3 | | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >1.4E+3 | | 1.3E+3 | | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.1E+2 | | >1.1E+2 | | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >6.6E-1 | | >6.6E-1 | | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 3.1E+2 | | 3.7E+3 | | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 1.3E-1 | | 2.5E+0 | | NA | NA | NA | NA | NA | 1.3E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 7.3E-1 | | 4.0E+1 | | NA | NA | NA | NA | NA | 7.3E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 8.80E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 5.5E-1 | >7.0E-1 | NA | NA | 5.5E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 6.7E+0 | >7.5E+0 | NA | NA | 6.7E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 2.2E+4 | >2.6E+4 | NA | NA | 2.2E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 3.9E+3 | >1.3E+4 | NA | NA | 3.9E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 2.2E+4 | >3.5E+4 | NA | NA | 2.2E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 2.2E+3 | 6.5E+3 | NA | NA | 2.2E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 4.1E-1 | 4.4E+0 | NA | NA | 4.1E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 4.3E+1 | >1.3E+2 | NA | NA | 4.3E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 3.8E+1 | >6.5E+1 | NA | NA | 3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | left |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN (P1)/Sector 4 SM/varias fami | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 1.1E+3 | 1.5E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 2.4E+2 | 1.6E+2 | NA | NA | NA | NA | NA | 1.6E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | >1.7E+3 | NA | NA | NA | NA | NA | >1.7E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.6E+3 | 1.1E+3 | NA | NA | NA | NA | NA | 1.1E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 1.7E+4 | 3.3E+3 | NA | NA | NA | NA | NA | 3.3E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 3.1E+3 | 1.6E+3 | NA | NA | NA | NA | NA | 1.6E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 1.6E+4 | 3.2E+3 | NA | NA | NA | NA | NA | 3.2E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.7E+2 | 1.0E+2 | NA | NA | NA | NA | NA | 1.0E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 5.8E+0 | >2.6E+2 | NA | NA | NA | NA | NA | 5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 1.1E+2 | >1.4E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 1.4E+2 | 6.8E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 1.7E+2 | 3.4E+2 | NA | NA | NA | NA | NA | 1.7E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 2.4E+2 | 2.0E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 SM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 9.0E-1 | | 1.5E+1 | NA | NA | | 9.0E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 5.8E+0 | | >3.1E+1 | NA | NA | | 5.8E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | 1.2E+2 | | >3.1E+2 | NA | NA | | 1.2E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 5.5E+1 | | >5.2E+2 | NA | NA | | 5.5E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 2.3E+1 | | >2.0E+2 | NA | NA | | 2.3E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/PAH, BTEX | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.1E-1 | 6.8E+0 | NA | NA | NA | NA | NA | 2.1E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 8.4E+0 | NA | NA | NA | NA | NA | 8.4E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 2.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 2.3E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 7.5E+1 | 1.1E+2 | NA | NA | NA | NA | NA | 7.5E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 3.0E+2 | 4.4E+2 | NA | NA | NA | NA | NA | 3.0E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 2.6E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 1.8E+1 | 1.7E+2 | NA | NA | NA | NA | NA | 1.8E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 SM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.2E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 5.6E+0 | 7.8E+1 | NA | NA | 5.6E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 3.2E-2 | 5.9E-1 | NA | NA | 3.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 9.9E-2 | 1.8E+0 | NA | NA | 9.9E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 1.8E+1 | 2.8E+2 | NA | NA | 1.8E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 1.5E+3 | >2.0E+4 | NA | NA | 1.5E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 3.2E-1 | 4.9E+0 | NA | NA | 3.2E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 5.0E+0 | 5.7E+1 | NA | NA | 5.0E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 7.8E+1 | 7.0E+2 | NA | NA | 7.8E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | 4.6E+0 | 6.6E+1 | NA | NA | 4.6E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 1.4E+2 | 2.2E+3 | NA | NA | 1.4E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 7.4E-1 | 8.7E+0 | NA | NA | 7.4E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 2.8E+2 | 4.1E+3 | NA | NA | 2.8E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 1.1E+1 | 1.8E+2 | NA | NA | 1.1E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 1.8E+1 | >5.0E+1 | NA | NA | 1.8E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >3.0E-1 | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 3.3E+1 | >2.0E+2 | NA | NA | 3.3E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 8.1E+0 | 1.4E+2 | NA | NA | 8.1E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 2.6E+0 | 4.1E+1 | NA | NA | 2.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 1.7E+0 | 2.8E+1 | NA | NA | 1.7E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.6E+1 | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 6.3E+0 | >3.0E+1 | NA | NA | 6.3E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >3.7E+3 | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >1.2E+3 | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >9.8E+2 | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >3.0E+2 | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.0E+2 | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >2.0E+0 | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 2.2E+2 | >1.3E+3 | NA | NA | 2.2E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 1.6E+0 | 1.8E+1 | NA | NA | 1.6E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 1.2E+0 | 2.1E+1 | NA | NA | 1.2E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 SM/VOCs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 6.2E+0 | 1.7E+1 | NA | NA | NA | NA | NA | 6.2E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 2.4E-2 | 2.2E+0 | NA | NA | NA | NA | NA | 2.4E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | 2.9E+2 | >3.8E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | 2.0E+2 | >3.7E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 5.0E-2 | 2.7E+0 | NA | NA | NA | NA | NA | 5.0E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 1.5E+1 | 8.5E+1 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 1.8E+2 | >5.7E+3 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.1E-1 | 1.7E+0 | NA | NA | NA | NA | NA | 1.1E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.6E+0 | 1.5E+2 | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 2.2E+2 | 3.3E+2 | NA | NA | NA | NA | NA | 2.2E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.9E+4 | 1.4E+4 | NA | NA | NA | NA | NA | 1.4E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >3.7E+4 | 1.5E+4 | NA | NA | NA | NA | NA | 1.5E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | 1.5E+3 | 2.1E+3 | NA | NA | NA | NA | NA | 1.5E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 3.4E+1 | 5.0E+1 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.3E+2 | >9.3E+2 | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 2.2E+1 | 8.5E+2 | NA | NA | NA | NA | NA | 2.2E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 2.6E-1 | 1.5E+0 | NA | NA | NA | NA | NA | 2.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 4.5E+1 | 1.3E+3 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.1E+0 | 9.5E+1 | NA | NA | NA | NA | NA | 2.1E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | 6.3E+3 | 3.9E+3 | NA | NA | NA | NA | NA | 3.9E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 1.8E+2 | 5.7E+2 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 4.8E+3 | NA | NA | NA | NA | NA | 4.8E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 1.5E+1 | >3.4E+2 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.1E+0 | 7.4E+1 | NA | NA | NA | NA | NA | 4.1E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 8.5E+0 | 1.2E+1 | NA | NA | NA | NA | NA | 8.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 5.4E+0 | 1.0E+1 | NA | NA | NA | NA | NA | 5.4E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 3.3E+2 | 4.3E+2 | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | 3.9E+2 | >4.6E+2 | NA | NA | NA | NA | NA | 3.9E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.0E+3 | >9.0E+3 | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.6E+3 | >3.6E+3 | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.4E+3 | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.1E+2 | >1.1E+2 | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >6.6E-1 | >6.6E-1 | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 1.8E+2 | 3.7E+3 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 7.8E-2 | 2.5E+0 | NA | NA | NA | NA | NA | 7.8E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 4.3E-1 | 4.0E+1 | NA | NA | NA | NA | NA | 4.3E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 4 SM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 2.98E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.90E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.04E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 3.2E-1 | >7.0E-1 | NA | NA | 3.2E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 3.9E+0 | >7.5E+0 | NA | NA | 3.9E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 1.2E+4 | >2.6E+4 | NA | NA | 1.2E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 2.3E+3 | >1.3E+4 | NA | NA | 2.3E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 1.2E+4 | >3.5E+4 | NA | NA | 1.2E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.3E+3 | 6.5E+3 | NA | NA | 1.3E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 2.4E-1 | 4.4E+0 | NA | NA | 2.4E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 2.5E+1 | >1.3E+2 | NA | NA | 2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 2.2E+1 | >6.5E+1 | NA | NA | 2.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | left |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | 8.1E+0 | | >9.3E+0 | NA | NA | 8.1E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 6.3E+2 | 1.5E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 1.4E+2 | 1.6E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | >1.7E+3 | NA | NA | NA | NA | NA | >1.7E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.6E+3 | 1.1E+3 | NA | NA | NA | NA | NA | 1.1E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 9.9E+3 | 3.3E+3 | NA | NA | NA | NA | NA | 3.3E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.8E+3 | 1.6E+3 | NA | NA | NA | NA | NA | 1.6E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 9.3E+3 | 3.2E+3 | NA | NA | NA | NA | NA | 3.2E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 9.9E+1 | 1.0E+2 | NA | NA | NA | NA | NA | 9.9E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 3.4E+0 | >2.6E+2 | NA | NA | NA | NA | NA | 3.4E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 6.2E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 6.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 8.0E+1 | 6.8E+2 | NA | NA | NA | NA | NA | 8.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 9.7E+1 | 3.4E+2 | NA | NA | NA | NA | NA | 9.7E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 5.4E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 5.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 1.4E+2 | 2.0E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 3.19E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 3.00E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.08E-1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.4E+0 | 4.0E+1 | NA | NA | 2.4E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 2.0E+1 | >3.1E+1 | NA | NA | 2.0E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >3.1E+2 | >3.1E+2 | NA | NA | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 1.4E+2 | >5.2E+2 | NA | NA | 1.4E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 5.9E+1 | >2.0E+2 | NA | NA | 5.9E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial INHALACIÓN/Sector 6/PAH, BTEX
Date Completed: 1-jun-yy



## SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 4.8E-1 | 3.7E+0 | NA | NA | NA | NA | NA | 4.8E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 9.6E-1 | NA | NA | NA | NA | NA | 9.6E-1 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 4.9E+2 | >6.5E+2 | NA | NA | NA | NA | NA | 4.9E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.5E+2 | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 6.4E+2 | 8.4E+2 | NA | NA | NA | NA | NA | 6.4E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 5.6E+1 | 2.4E+2 | NA | NA | NA | NA | NA | 5.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 3.9E+1 | 9.2E+1 | NA | NA | NA | NA | NA | 3.9E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 3.19E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 3.00E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.08E-1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.7E+1 | | 2.8E+2 | NA | NA | 1.7E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 7.7E-2 | | 1.4E+0 | NA | NA | 7.7E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 2.4E-1 | | 4.1E+0 | NA | NA | 2.4E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 4.9E+1 | | >4.7E+2 | NA | NA | 4.9E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 3.9E+3 | | >2.0E+4 | NA | NA | 3.9E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 8.8E-1 | | 1.5E+1 | NA | NA | 8.8E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 1.7E+1 | | 2.7E+2 | NA | NA | 1.7E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 2.8E+2 | | 4.5E+3 | NA | NA | 2.8E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 1.4E+1 | | >1.2E+2 | NA | NA | 1.4E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 4.0E+2 | | >5.5E+3 | NA | NA | 4.0E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 2.4E+0 | | 3.9E+1 | NA | NA | 2.4E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 8.2E+2 | | >4.9E+3 | NA | NA | 8.2E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 2.9E+1 | | 5.0E+2 | NA | NA | 2.9E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 6.1E+3 | | >6.2E+3 | NA | NA | 6.1E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | >5.0E+1 | | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| CAS No. | Name | (mg/L) | | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | | NA | NA | NA | | 8.0E+1 | | >2.0E+2 | NA | NA | 8.0E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | | NA | NA | NA | | 2.0E+1 | | 3.5E+2 | NA | NA | 2.0E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | | NA | NA | NA | | 7.0E+0 | | >5.7E+1 | NA | NA | 7.0E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | | NA | NA | NA | | 4.3E+0 | | >5.2E+1 | NA | NA | 4.3E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | | NA | NA | NA | | 2.3E+1 | | >3.0E+1 | NA | NA | 2.3E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | | NA | NA | NA | | 5.4E+2 | | >1.3E+3 | NA | NA | 5.4E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | | NA | NA | NA | | 5.2E+0 | | 8.5E+1 | NA | NA | 5.2E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | | NA | NA | NA | | 2.8E+0 | | 4.9E+1 | NA | NA | 2.8E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6/VOCs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 1.3E+1 | 1.8E+1 | NA | NA | NA | NA | NA | 1.3E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 6.3E-2 | 1.2E+0 | NA | NA | NA | NA | NA | 6.3E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >3.8E+2 | >3.8E+2 | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >3.7E+2 | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 1.0E-1 | 1.4E+0 | NA | NA | NA | NA | NA | 1.0E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 3.3E+1 | 4.6E+1 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 4.8E+2 | >7.5E+3 | NA | NA | NA | NA | NA | 4.8E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 2.6E-1 | 9.3E-1 | NA | NA | NA | NA | NA | 2.6E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 4.3E+0 | 8.3E+1 | NA | NA | NA | NA | NA | 4.3E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 4.6E+2 | 5.8E+2 | NA | NA | NA | NA | NA | 4.6E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >5.3E+4 | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >4.0E+4 | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >2.9E+3 | >2.9E+3 | NA | NA | NA | NA | NA | >2.9E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 7.2E+1 | 9.5E+1 | NA | NA | NA | NA | NA | 7.2E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.4E+2 | >9.4E+2 | NA | NA | NA | NA | NA | >9.4E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 5.6E+1 | 4.6E+2 | NA | NA | NA | NA | NA | 5.6E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 6.3E-1 | 8.3E-1 | NA | NA | NA | NA | NA | 6.3E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 1.2E+2 | 7.3E+2 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 5.0E+0 | 5.2E+1 | NA | NA | NA | NA | NA | 5.0E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | 6.9E+3 | 6.7E+2 | NA | NA | NA | NA | NA | 6.7E+2 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 7.6E+2 | 3.4E+2 | NA | NA | NA | NA | NA | 3.4E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 4.2E+2 | NA | NA | NA | NA | NA | 4.2E+2 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 3.3E+1 | 2.3E+2 | NA | NA | NA | NA | NA | 3.3E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 8.9E+0 | 4.0E+1 | NA | NA | NA | NA | NA | 8.9E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 1.8E+1 | 2.4E+1 | NA | NA | NA | NA | NA | 1.8E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 1.1E+1 | 1.5E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 7.1E+2 | 2.6E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >4.6E+2 | >4.6E+2 | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.4E+3 | 2.6E+3 | NA | NA | NA | NA | NA | 2.6E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.8E+3 | 2.9E+3 | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.5E+3 | 3.5E+2 | NA | NA | NA | NA | NA | 3.5E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | 5.8E+2 | NA | NA | NA | NA | NA | 5.8E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >8.7E-1 | >8.7E-1 | NA | NA | NA | NA | NA | >8.7E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 3.8E+2 | 2.0E+3 | NA | NA | NA | NA | NA | 3.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 3.5E-1 | 1.3E+0 | NA | NA | NA | NA | NA | 3.5E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 1.1E+0 | 2.1E+1 | NA | NA | NA | NA | NA | 1.1E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 5.10E+2 | NA | (cm) |
| $A_b$ | Foundation area | 3.19E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 3.00E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 2.50E+2 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 1.08E-1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Residencial INHALACIÓN/Sector 6/varias familias
Date Completed: 17-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | >7.0E-1 | | >7.0E-1 | NA | NA | | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >7.5E+0 | | >7.5E+0 | NA | NA | | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | 1.1E+4 | | 1.5E+4 | NA | NA | | 1.1E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 2.5E+3 | | >1.3E+4 | NA | NA | | 2.5E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | 1.1E+4 | | 1.5E+4 | NA | NA | | 1.1E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 1.1E+3 | | 1.3E+3 | NA | NA | | 1.1E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 5.6E-1 | | >5.4E+0 | NA | NA | | 5.6E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | 5.9E+1 | | >1.3E+2 | NA | NA | | 5.9E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | 5.5E+1 | | >6.5E+1 | NA | NA | | 5.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | | Residential | | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | | NA | NA | NA | | 1.3E+3 | | 9.0E+1 | NA | NA | NA | NA | NA | 9.0E+1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | | NA | NA | NA | | >5.6E+2 | | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | | NA | NA | NA | | 2.8E+2 | | 9.8E+1 | NA | NA | NA | NA | NA | 9.8E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | | NA | NA | NA | | >5.4E+4 | | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | | NA | NA | NA | | >1.8E+3 | | 2.6E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | | NA | NA | NA | | >2.1E+3 | | 1.4E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | | NA | NA | NA | | >3.8E+3 | | 3.4E+3 | NA | NA | NA | NA | NA | 3.4E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | | NA | NA | NA | | >6.9E+1 | | 3.8E+0 | NA | NA | NA | NA | NA | 3.8E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | | NA | NA | NA | | >2.3E+3 | | 4.7E+2 | NA | NA | NA | NA | NA | 4.7E+2 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | | NA | NA | NA | | 1.1E+4 | | 3.3E+2 | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | | NA | NA | NA | | 2.1E+3 | | 3.5E+2 | NA | NA | NA | NA | NA | 3.5E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | | NA | NA | NA | | 1.0E+4 | | 3.2E+2 | NA | NA | NA | NA | NA | 3.2E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | | NA | NA | NA | | 2.0E+2 | | 8.6E+0 | NA | NA | NA | NA | NA | 8.6E+0 | ☐ | NA |
| 7439-97-6 | Mercury ** | | | NA | NA | NA | | >1.6E-2 | | >1.6E-2 | NA | NA | NA | NA | NA | >1.6E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | | NA | NA | NA | | 8.8E+0 | | 1.7E+2 | NA | NA | NA | NA | NA | 8.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | | NA | NA | NA | | 1.3E+2 | | >1.4E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | | NA | NA | NA | | >8.6E+1 | | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | | NA | NA | NA | | >3.8E+1 | | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | | NA | NA | NA | | #N/A | | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | | NA | NA | NA | | >2.0E+1 | | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | | NA | NA | NA | | 1.7E+2 | | 3.7E+2 | NA | NA | NA | NA | NA | 1.7E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | | NA | NA | NA | | 2.0E+2 | | 2.7E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | | NA | NA | NA | | >6.3E+2 | | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | | NA | NA | NA | | >2.9E+2 | | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | 2.9E+2 | | >3.7E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Ludico cultural INHALACIÓN/Sector 3/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 0.0E+0 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 0.0E+0 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 7.95E+6 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 1.36E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 8.11E+0 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Ludico cultural a INHALACIÓN/Sector 3/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 1.1E+1 | | 4.4E+1 | NA | NA | | 1.1E+1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | >3.1E+1 | | >3.1E+1 | NA | NA | | >3.1E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | >3.1E+2 | | >3.1E+2 | NA | NA | | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | >5.2E+2 | | >5.2E+2 | NA | NA | | >5.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | >2.0E+2 | | >2.0E+2 | NA | NA | | >2.0E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN/Sector 3 a/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.3E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 7.95E+6 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 7.95E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 2.70E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3 a/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 5.7E+1 | | 2.3E+2 | NA | NA | | 5.7E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.4E-1 | | 1.6E+0 | NA | NA | | 3.4E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.1E+0 | | 4.8E+0 | NA | NA | | 1.1E+0 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.8E+2 | | >4.7E+2 | NA | NA | | 1.8E+2 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.5E+4 | | >2.0E+4 | NA | NA | | 1.5E+4 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 3.8E+0 | | 1.6E+1 | NA | NA | | 3.8E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.6E+1 | | 2.0E+2 | NA | NA | | 5.6E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 8.7E+2 | | 3.3E+3 | NA | NA | | 8.7E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 4.7E+1 | | >1.2E+2 | NA | NA | | 4.7E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.4E+3 | | >5.5E+3 | NA | NA | | 1.4E+3 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 9.6E+0 | | 3.6E+1 | NA | NA | | 9.6E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.8E+3 | | >4.9E+3 | NA | NA | | 2.8E+3 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.1E+2 | | 4.5E+2 | NA | NA | | 1.1E+2 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | >5.0E+1 | | >5.0E+1 | NA | NA | | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3 a/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >3.0E-1 | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | >2.0E+2 | >2.0E+2 | NA | NA | >2.0E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.3E-1 | 1.9E+0 | NA | NA | 4.3E-1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 2.5E+1 | >5.7E+1 | NA | NA | 2.5E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 1.6E+1 | >5.2E+1 | NA | NA | 1.6E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.6E+1 | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | >3.0E+1 | >3.0E+1 | NA | NA | >3.0E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >3.7E+3 | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >1.2E+3 | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >9.8E+2 | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >3.0E+2 | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.0E+2 | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >2.0E+0 | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | >1.3E+3 | >1.3E+3 | NA | NA | >1.3E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 2.0E+1 | 7.7E+1 | NA | NA | 2.0E+1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 1.3E+1 | 5.7E+1 | NA | NA | 1.3E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN/Sector 3a/varias familias

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 7.95E+6 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 1.36E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 8.11E+0 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3a/varias familias | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | >7.0E-1 | | >7.0E-1 | NA | NA | | >7.0E-1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >7.5E+0 | | >7.5E+0 | NA | NA | | >7.5E+0 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 85-68-7 | Butyl benzyl phthalate* | | NA | NA | NA | | >2.7E+0 | | >2.7E+0 | NA | NA | | >2.7E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | >2.6E+4 | | >2.6E+4 | NA | NA | | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | >1.3E+4 | | >1.3E+4 | NA | NA | | >1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | >3.5E+4 | | >3.5E+4 | NA | NA | | >3.5E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 1.8E+4 | | 4.7E+4 | NA | NA | | 1.8E+4 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | >6.5E+1 | | >6.5E+1 | NA | NA | | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3a/varias familias | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Ludico cultural B INHALACIÓN/Sector 3/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 0.0E+0 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 0.0E+0 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.31E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.54E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.87E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Ludico cultural B INHALACIÓN/Sector 3/PAH, BTEX | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 1.1E+1 | 4.4E+1 | NA | NA | 1.1E+1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | >3.1E+1 | >3.1E+1 | NA | NA | >3.1E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >3.1E+2 | >3.1E+2 | NA | NA | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | >5.2E+2 | >5.2E+2 | NA | NA | >5.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | >2.0E+2 | >2.0E+2 | NA | NA | >2.0E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Ludico cultural B INHALACIÓN/Sector 3/PAH, BTEX | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 1.1E+1 | 4.4E+1 | NA | NA | 1.1E+1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | >3.1E+1 | >3.1E+1 | NA | NA | >3.1E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >3.1E+2 | >3.1E+2 | NA | NA | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | >5.2E+2 | >5.2E+2 | NA | NA | >5.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | >2.0E+2 | >2.0E+2 | NA | NA | >2.0E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN/Sector 3 b/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.3E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.31E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.54E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.87E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3 b/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 6.1E+1 | | 2.3E+2 | NA | NA | | 6.1E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.6E-1 | | 1.6E+0 | NA | NA | | 3.6E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.1E+0 | | 4.8E+0 | NA | NA | | 1.1E+0 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.9E+2 | | >4.7E+2 | NA | NA | | 1.9E+2 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.5E+4 | | >2.0E+4 | NA | NA | | 1.5E+4 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 4.0E+0 | | 1.6E+1 | NA | NA | | 4.0E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.9E+1 | | 2.0E+2 | NA | NA | | 5.9E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 9.9E+2 | | 3.3E+3 | NA | NA | | 9.9E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 5.0E+1 | | >1.2E+2 | NA | NA | | 5.0E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.5E+3 | | >5.5E+3 | NA | NA | | 1.5E+3 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 1.0E+1 | | 3.6E+1 | NA | NA | | 1.0E+1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 3.0E+3 | | >4.9E+3 | NA | NA | | 3.0E+3 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.1E+2 | | 4.5E+2 | NA | NA | | 1.1E+2 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | >5.0E+1 | | >5.0E+1 | NA | NA | | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3 b/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | | None | None | None | | Commercial | | Commercial | None | None | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | | NA | NA | NA | | >2.0E+2 | | >2.0E+2 | NA | NA | >2.0E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | | NA | NA | NA | | 9.6E+1 | | 3.9E+2 | NA | NA | 9.6E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | | NA | NA | NA | | 2.6E+1 | | >5.7E+1 | NA | NA | 2.6E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | | NA | NA | NA | | 1.7E+1 | | >5.2E+1 | NA | NA | 1.7E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | | NA | NA | NA | | >3.0E+1 | | >3.0E+1 | NA | NA | >3.0E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | | NA | NA | NA | | >1.3E+3 | | >1.3E+3 | NA | NA | >1.3E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | | NA | NA | NA | | 2.2E+1 | | 7.7E+1 | NA | NA | 2.2E+1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | | NA | NA | NA | | 1.4E+1 | | 5.7E+1 | NA | NA | 1.4E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN/Sector 3b/varias familias

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.5E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 2.5E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 2.5E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.31E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.54E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.87E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3b/varias familias | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | >7.0E-1 | >7.0E-1 | NA | NA | >7.0E-1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >7.5E+0 | >7.5E+0 | NA | NA | >7.5E+0 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 85-68-7 | Butyl benzyl phthalate* | | NA | NA | NA | >2.7E+0 | >2.7E+0 | NA | NA | >2.7E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.6E+4 | >2.6E+4 | NA | NA | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | >1.3E+4 | >1.3E+4 | NA | NA | >1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >3.5E+4 | >3.5E+4 | NA | NA | >3.5E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.8E+4 | 4.7E+4 | NA | NA | 1.8E+4 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | >6.5E+1 | >6.5E+1 | NA | NA | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 3b/varias familias | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | | Commercial | None | None | | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | | NC | NA | NA | | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.03E+3 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 1.8E+0 | | 1.9E+1 | NA | NA | | 1.8E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 7.4E+0 | | >3.1E+1 | NA | NA | | 7.4E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | 2.0E+2 | | >3.1E+2 | NA | NA | | 2.0E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 9.3E+1 | | >5.2E+2 | NA | NA | | 9.3E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 3.8E+1 | | >2.0E+2 | NA | NA | | 3.8E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/PAH, BTEX | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.2E-1 | 1.0E+1 | NA | NA | NA | NA | NA | 2.2E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 1.3E+1 | NA | NA | NA | NA | NA | 1.3E+1 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 1.3E+2 | >6.2E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 3.9E+1 | 1.1E+2 | NA | NA | NA | NA | NA | 3.9E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 1.7E+2 | 5.6E+2 | NA | NA | NA | NA | NA | 1.7E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 1.5E+1 | 5.6E+2 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 1.0E+1 | 2.2E+2 | NA | NA | NA | NA | NA | 1.0E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.04E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 1.7E+1 | 1.2E+2 | NA | NA | 1.7E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 1.2E-1 | 1.1E+0 | NA | NA | 1.2E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 3.6E-1 | 3.2E+0 | NA | NA | 3.6E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 5.5E+1 | 4.2E+2 | NA | NA | 5.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 4.7E+3 | >2.0E+4 | NA | NA | 4.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.2E+0 | 9.0E+0 | NA | NA | 1.2E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.5E+1 | 8.6E+1 | NA | NA | 1.5E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 2.4E+2 | 1.1E+3 | NA | NA | 2.4E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | 1.4E+1 | 1.0E+2 | NA | NA | 1.4E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 4.4E+2 | 3.4E+3 | NA | NA | 4.4E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 2.7E+0 | 1.6E+1 | NA | NA | 2.7E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 8.6E+2 | >4.9E+3 | NA | NA | 8.6E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 3.4E+1 | 2.7E+2 | NA | NA | 3.4E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >5.0E+1 | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/VOCs
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 9.9E+1 | | >2.0E+2 | NA | NA | | 9.9E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 2.9E+1 | | 2.5E+2 | NA | NA | | 2.9E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 7.9E+0 | | >5.7E+1 | NA | NA | | 7.9E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 5.1E+0 | | 4.2E+1 | NA | NA | | 5.1E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.9E+1 | | >3.0E+1 | NA | NA | | 1.9E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 6.8E+2 | | >1.3E+3 | NA | NA | | 6.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 5.7E+0 | | 3.2E+1 | NA | NA | | 5.7E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 4.3E+0 | | 3.8E+1 | NA | NA | | 4.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.9E+1 | | 2.2E+1 | NA | NA | NA | | NA | NA | 1.9E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 7.3E-2 | | 3.4E+0 | NA | NA | NA | | NA | NA | 7.3E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >3.8E+2 | | >3.8E+2 | NA | NA | NA | | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >3.7E+2 | | >3.7E+2 | NA | NA | NA | | NA | NA | >3.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.8E-1 | | 4.0E+0 | NA | NA | NA | | NA | NA | 1.8E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 4.6E+1 | | 1.1E+2 | NA | NA | NA | | NA | NA | 4.6E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 4.6E+2 | | >5.7E+3 | NA | NA | NA | | NA | NA | 4.6E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 4.1E-1 | | 2.6E+0 | NA | NA | NA | | NA | NA | 4.1E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 4.2E+0 | | 1.9E+2 | NA | NA | NA | | NA | NA | 4.2E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 6.7E+2 | | 5.0E+2 | NA | NA | NA | | NA | NA | 5.0E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.9E+4 | | 2.0E+4 | NA | NA | NA | | NA | NA | 2.0E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >3.7E+4 | | 2.1E+4 | NA | NA | NA | | NA | NA | 2.1E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | NA | NA | NA | | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >2.9E+3 | | >2.9E+3 | NA | NA | NA | | NA | NA | >2.9E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 1.0E+2 | | 7.7E+1 | NA | NA | NA | | NA | NA | 7.7E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >9.3E+2 | | >9.3E+2 | NA | NA | NA | | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 6.6E+1 | | 1.1E+3 | NA | NA | NA | | NA | NA | 6.6E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 9.6E-1 | | 2.3E+0 | NA | NA | NA | | NA | NA | 9.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 1.4E+2 | | 1.7E+3 | NA | NA | NA | | NA | NA | 1.4E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 6.3E+0 | | 1.2E+2 | NA | NA | NA | | NA | NA | 6.3E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >7.7E+3 | | 5.4E+3 | NA | NA | NA | | NA | NA | 5.4E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | NA | NA | NA | | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 6.6E+2 | | >9.1E+2 | NA | NA | NA | | NA | NA | 6.6E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | >5.7E+3 | NA | NA | NA | | NA | NA | >5.7E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 4.6E+1 | | >3.4E+2 | NA | NA | NA | | NA | NA | 4.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 1.5E+1 | | 1.1E+2 | NA | NA | NA | | NA | NA | 1.5E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.6E+1 | | 1.9E+1 | NA | NA | NA | | NA | NA | 1.9E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.6E+1 | | 1.3E+1 | NA | NA | NA | | NA | NA | 1.3E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.5E+3 | | >1.5E+3 | NA | NA | NA | | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.0E+3 | | 5.9E+2 | NA | NA | NA | | NA | NA | 5.9E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >4.6E+2 | | >4.6E+2 | NA | NA | NA | | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >9.0E+3 | | >9.0E+3 | NA | NA | NA | | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.6E+3 | | >3.6E+3 | NA | NA | NA | | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | | NA | NA | >1.4E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.1E+2 | | >1.1E+2 | NA | NA | NA | | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >6.6E-1 | | >6.6E-1 | NA | NA | NA | | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 5.4E+2 | | >3.8E+3 | NA | NA | NA | | NA | NA | 5.4E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.8E-1 | | 3.8E+0 | NA | NA | NA | | NA | NA | 2.8E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.3E+0 | | 6.1E+1 | NA | NA | NA | | NA | NA | 1.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.3E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+4 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.03E+3 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | Only if "yes" left | | | |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | | Commercial | None | None | (mg/L) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | >7.0E-1 | | >7.0E-1 | NA | NA | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >7.5E+0 | | >7.5E+0 | NA | NA | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.6E+4 | | >2.6E+4 | NA | NA | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | >1.3E+4 | | >1.3E+4 | NA | NA | >1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >3.5E+4 | | >3.5E+4 | NA | NA | >3.5E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 2.0E+5 | | 1.1E+4 | NA | NA | 1.1E+4 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | >5.4E+0 | | 3.9E+0 | NA | NA | 3.9E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | >1.3E+2 | | >1.3E+2 | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | >6.5E+1 | | >6.5E+1 | NA | NA | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/varias familias | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 GM/varias famili | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | >2.2E+3 | 2.0E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >3.8E+2 | 1.8E+2 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.6E+3 | >1.6E+3 | NA | NA | NA | NA | NA | >1.6E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.3E+3 | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 1.5E+1 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.2E+4 | 4.2E+3 | NA | NA | NA | NA | NA | 4.2E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | >1.2E+4 | 1.7E+3 | NA | NA | NA | NA | NA | 1.7E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >2.9E+4 | 4.0E+3 | NA | NA | NA | NA | NA | 4.0E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 3.4E+3 | 4.5E+1 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.6E-3 | >6.6E-3 | NA | NA | NA | NA | NA | >6.6E-3 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | >2.5E+2 | >2.5E+2 | NA | NA | NA | NA | NA | >2.5E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >1.4E+2 | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | >1.7E+3 | 8.6E+2 | NA | NA | NA | NA | NA | 8.6E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | >1.0E+3 | 4.3E+2 | NA | NA | NA | NA | NA | 4.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | >3.7E+2 | 2.0E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/PAH, BTEX

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.04E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/PAH, BTEX
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 3.3E+0 | | 2.7E+1 | NA | NA | 3.3E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 1.8E+1 | | >3.1E+1 | NA | NA | 1.8E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | >3.1E+2 | | >3.1E+2 | NA | NA | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 1.7E+2 | | >5.2E+2 | NA | NA | 1.7E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 6.9E+1 | | >2.0E+2 | NA | NA | 6.9E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/PAH, BTEX | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | 7.5E-1 | 1.0E+1 | NA | NA | NA | NA | NA | 7.5E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | >1.7E+1 | 1.4E+1 | NA | NA | NA | NA | NA | 1.4E+1 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | 2.3E+2 | 1.7E+2 | NA | NA | NA | NA | NA | 1.7E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | 9.2E+2 | 6.8E+2 | NA | NA | NA | NA | NA | 6.8E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | 7.8E+1 | 5.6E+2 | NA | NA | NA | NA | NA | 7.8E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | 5.4E+1 | 2.2E+2 | NA | NA | NA | NA | NA | 5.4E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+2 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.04E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 1.7E+1 | 1.2E+2 | NA | NA | 1.7E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 1.2E-1 | 1.1E+0 | NA | NA | 1.2E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 3.6E-1 | 3.2E+0 | NA | NA | 3.6E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 5.5E+1 | 4.2E+2 | NA | NA | 5.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 4.7E+3 | >2.0E+4 | NA | NA | 4.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.2E+0 | 9.0E+0 | NA | NA | 1.2E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.5E+1 | 8.6E+1 | NA | NA | 1.5E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 2.4E+2 | 1.1E+3 | NA | NA | 2.4E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | 1.4E+1 | 1.0E+2 | NA | NA | 1.4E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 4.4E+2 | 3.4E+3 | NA | NA | 4.4E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 2.7E+0 | 1.6E+1 | NA | NA | 2.7E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 8.6E+2 | >4.9E+3 | NA | NA | 8.6E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 3.4E+1 | 2.7E+2 | NA | NA | 3.4E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >5.0E+1 | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | | None | None | None | | Commercial | | Commercial | None | None | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | | NA | NA | NA | | 9.9E+1 | | >2.0E+2 | NA | NA | 9.9E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | | NA | NA | NA | | 2.9E+1 | | 2.5E+2 | NA | NA | 2.9E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | | NA | NA | NA | | 7.9E+0 | | >5.7E+1 | NA | NA | 7.9E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | | NA | NA | NA | | 5.1E+0 | | 4.2E+1 | NA | NA | 5.1E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | | NA | NA | NA | | 1.9E+1 | | >3.0E+1 | NA | NA | 1.9E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | | NA | NA | NA | | 6.8E+2 | | >1.3E+3 | NA | NA | 6.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | | NA | NA | NA | | 5.7E+0 | | 3.2E+1 | NA | NA | 5.7E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | | NA | NA | NA | | 4.3E+0 | | 3.8E+1 | NA | NA | 4.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 1.9E+1 | | 2.2E+1 | NA | NA | NA | NA | NA | 1.9E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 7.3E-2 | | 3.4E+0 | NA | NA | NA | NA | NA | 7.3E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >3.8E+2 | | >3.8E+2 | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >3.7E+2 | | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.8E-1 | | 4.0E+0 | NA | NA | NA | NA | NA | 1.8E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 4.6E+1 | | 1.1E+2 | NA | NA | NA | NA | NA | 4.6E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 4.6E+2 | | >5.7E+3 | NA | NA | NA | NA | NA | 4.6E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 4.1E-1 | | 2.6E+0 | NA | NA | NA | NA | NA | 4.1E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 4.2E+0 | | 1.9E+2 | NA | NA | NA | NA | NA | 4.2E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 6.7E+2 | | 5.0E+2 | NA | NA | NA | NA | NA | 5.0E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.9E+4 | | 2.0E+4 | NA | NA | NA | NA | NA | 2.0E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >3.7E+4 | | 2.1E+4 | NA | NA | NA | NA | NA | 2.1E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >2.9E+3 | | >2.9E+3 | NA | NA | NA | NA | NA | >2.9E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 1.0E+2 | | 7.7E+1 | NA | NA | NA | NA | NA | 7.7E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >9.3E+2 | | >9.3E+2 | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 6.6E+1 | | 1.1E+3 | NA | NA | NA | NA | NA | 6.6E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 9.6E-1 | | 2.3E+0 | NA | NA | NA | NA | NA | 9.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 1.4E+2 | | 1.7E+3 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 6.3E+0 | | 1.2E+2 | NA | NA | NA | NA | NA | 6.3E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >7.7E+3 | | 5.4E+3 | NA | NA | NA | NA | NA | 5.4E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 6.6E+2 | | >9.1E+2 | NA | NA | NA | NA | NA | 6.6E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | >5.7E+3 | NA | NA | NA | NA | NA | >5.7E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 4.6E+1 | | >3.4E+2 | NA | NA | NA | NA | NA | 4.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 1.5E+1 | | 1.1E+2 | NA | NA | NA | NA | NA | 1.5E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.6E+1 | | 1.9E+1 | NA | NA | NA | NA | NA | 1.9E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.6E+1 | | 1.3E+1 | NA | NA | NA | NA | NA | 1.3E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.5E+3 | | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.0E+3 | | 5.9E+2 | NA | NA | NA | NA | NA | 5.9E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >4.6E+2 | | >4.6E+2 | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >9.0E+3 | | >9.0E+3 | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.6E+3 | | >3.6E+3 | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.1E+2 | | >1.1E+2 | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >6.6E-1 | | >6.6E-1 | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 5.4E+2 | | >3.8E+3 | NA | NA | NA | NA | NA | 5.4E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.8E-1 | | 3.8E+0 | NA | NA | NA | NA | NA | 2.8E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.3E+0 | | 6.1E+1 | NA | NA | NA | NA | NA | 1.3E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.5E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 3.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 7.2E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 7.3E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 6.20E+4 | (cm) |
| $A_b$ | Foundation area | NA | 2.98E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 2.50E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.04E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | >7.0E-1 | >7.0E-1 | NA | NA | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >7.5E+0 | >7.5E+0 | NA | NA | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.6E+4 | >2.6E+4 | NA | NA | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | >1.3E+4 | >1.3E+4 | NA | NA | >1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >3.5E+4 | >3.5E+4 | NA | NA | >3.5E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | >4.0E+5 | 1.2E+4 | NA | NA | 1.2E+4 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | >5.4E+0 | >5.4E+0 | NA | NA | >5.4E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | >6.5E+1 | >6.5E+1 | NA | NA | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/varias familias | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | | Commercial | None | None | | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | >9.3E+0 | | >9.3E+0 | NA | NA | | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+0 | | >1.3E+0 | NA | NA | | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | | NC | NA | NA | | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | | NC | NA | NA | | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | | NC | NA | NA | | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial (PB) INHALACIÓN/Sector 4 SM/varias famili | Date Completed: 17-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | | NA | NA | NA | | >2.2E+3 | | 2.5E+2 | NA | NA | NA | NA | NA | 2.5E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | | NA | NA | NA | | >5.6E+2 | | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | | NA | NA | NA | | >3.9E+2 | | 2.3E+2 | NA | NA | NA | NA | NA | 2.3E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | | NA | NA | NA | | >5.4E+4 | | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | | NA | NA | NA | | >1.7E+3 | | >1.7E+3 | NA | NA | NA | NA | NA | >1.7E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | | NA | NA | NA | | >1.6E+3 | | 1.6E+3 | NA | NA | NA | NA | NA | 1.6E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | | NA | NA | NA | | >3.8E+3 | | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | | NA | NA | NA | | >6.9E+1 | | 1.9E+1 | NA | NA | NA | NA | NA | 1.9E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | | NA | NA | NA | | >2.3E+3 | | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | | NA | NA | NA | | >2.4E+4 | | 4.6E+3 | NA | NA | NA | NA | NA | 4.6E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | | NA | NA | NA | | >1.3E+4 | | 2.2E+3 | NA | NA | NA | NA | NA | 2.2E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | | NA | NA | NA | | >3.1E+4 | | 4.5E+3 | NA | NA | NA | NA | NA | 4.5E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | | NA | NA | NA | | >3.7E+4 | | 1.9E+2 | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | | NA | NA | NA | | >1.1E-2 | | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | | NA | NA | NA | | >2.6E+2 | | >2.6E+2 | NA | NA | NA | NA | NA | >2.6E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | | NA | NA | NA | | >1.4E+2 | | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | | NA | NA | NA | | >8.6E+1 | | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | | NA | NA | NA | | >3.8E+1 | | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | | NA | NA | NA | | #N/A | | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | | NA | NA | NA | | >2.0E+1 | | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | | NA | NA | NA | | >1.7E+3 | | 8.6E+2 | NA | NA | NA | NA | NA | 8.6E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | | NA | NA | NA | | >1.0E+3 | | 4.3E+2 | NA | NA | NA | NA | NA | 4.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | | NA | NA | NA | | >6.3E+2 | | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | | NA | NA | NA | | >2.9E+2 | | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | >3.7E+2 | | 3.0E+2 | NA | NA | NA | NA | NA | 3.0E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5-GM/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 9.95E+2 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5-GM/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.3E+0 | 1.4E+1 | NA | NA | 2.3E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.0E+1 | >3.1E+1 | NA | NA | 1.0E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 2.6E+2 | >3.1E+2 | NA | NA | 2.6E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 1.2E+2 | >5.2E+2 | NA | NA | 1.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 4.8E+1 | >2.0E+2 | NA | NA | 4.8E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5-GM/PAH, BTEX | Date Completed: 1-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | 2.6E-1 | 6.2E+0 | NA | NA | NA | NA | NA | 2.6E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | >1.7E+1 | 7.5E+0 | NA | NA | NA | NA | NA | 7.5E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | 2.2E+2 | >6.2E+2 | NA | NA | NA | NA | NA | 2.2E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | 6.6E+1 | 6.5E+1 | NA | NA | NA | NA | NA | 6.5E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | 2.9E+2 | 3.4E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | 2.6E+1 | 3.4E+2 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | 1.7E+1 | 1.3E+2 | NA | NA | NA | NA | NA | 1.7E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 GM/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 9.95E+2 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 GM/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 1.2E+1 | 7.4E+1 | NA | NA | 1.2E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 7.2E-2 | 4.9E-1 | NA | NA | 7.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 2.3E-1 | 1.5E+0 | NA | NA | 2.3E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 3.9E+1 | 2.4E+2 | NA | NA | 3.9E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 3.4E+3 | >2.0E+4 | NA | NA | 3.4E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 8.5E-1 | 5.2E+0 | NA | NA | 8.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.1E+1 | 5.7E+1 | NA | NA | 1.1E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 1.2E+2 | 6.7E+2 | NA | NA | 1.2E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | 9.9E+0 | 6.1E+1 | NA | NA | 9.9E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 3.1E+2 | 2.0E+3 | NA | NA | 3.1E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 1.9E+0 | 1.0E+1 | NA | NA | 1.9E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 6.1E+2 | 3.8E+3 | NA | NA | 6.1E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.3E+1 | 1.5E+2 | NA | NA | 2.3E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 4.0E+1 | >5.0E+1 | NA | NA | 4.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 GM/VOCs
Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 6.6E+1 | | >2.0E+2 | NA | NA | | 6.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 2.0E+1 | | 1.3E+2 | NA | NA | | 2.0E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 5.5E+0 | | 3.5E+1 | NA | NA | | 5.5E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 3.5E+0 | | 2.2E+1 | NA | NA | | 3.5E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.0E+1 | | >3.0E+1 | NA | NA | | 1.0E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 4.5E+2 | | >1.3E+3 | NA | NA | | 4.5E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 3.7E+0 | | 2.1E+1 | NA | NA | | 3.7E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 2.9E+0 | | 1.8E+1 | NA | NA | | 2.9E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 GM/VOCs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 5.8E+0 | | 1.3E+1 | NA | NA | NA | | NA | NA | 5.8E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 8.7E-2 | | 2.1E+0 | NA | NA | NA | | NA | NA | 8.7E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | 3.3E+2 | | >3.3E+2 | NA | NA | NA | | NA | NA | 3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | 2.5E+2 | | 3.5E+2 | NA | NA | NA | | NA | NA | 2.5E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | 1.7E+2 | | 3.5E+2 | NA | NA | NA | | NA | NA | 1.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.0E-1 | | 2.4E+0 | NA | NA | NA | | NA | NA | 1.0E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.4E+1 | | 6.5E+1 | NA | NA | NA | | NA | NA | 1.4E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 5.5E+2 | | >4.2E+3 | NA | NA | NA | | NA | NA | 5.5E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 1.5E-1 | | 1.6E+0 | NA | NA | NA | | NA | NA | 1.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.0E+0 | | 1.2E+2 | NA | NA | NA | | NA | NA | 5.0E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 1.8E+2 | | 1.9E+2 | NA | NA | NA | | NA | NA | 1.8E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.6E+4 | | 1.2E+4 | NA | NA | NA | | NA | NA | 1.2E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >3.5E+4 | | 1.2E+4 | NA | NA | NA | | NA | NA | 1.2E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | NA | NA | NA | | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 1.4E+3 | | 1.3E+3 | NA | NA | NA | | NA | NA | 1.3E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 3.2E+1 | | 3.0E+1 | NA | NA | NA | | NA | NA | 3.0E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >9.2E+2 | | >9.2E+2 | NA | NA | NA | | NA | NA | >9.2E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 2.8E+1 | | 6.5E+2 | NA | NA | NA | | NA | NA | 2.8E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 3.3E-1 | | 1.4E+0 | NA | NA | NA | | NA | NA | 3.3E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 4.4E+1 | | 1.0E+3 | NA | NA | NA | | NA | NA | 4.4E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 3.1E+0 | | 7.3E+1 | NA | NA | NA | | NA | NA | 3.1E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 5.3E+3 | | 2.6E+3 | NA | NA | NA | | NA | NA | 2.6E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | NA | NA | NA | | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 2.2E+2 | | 4.0E+2 | NA | NA | NA | | NA | NA | 2.2E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | NA | NA | NA | | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | 3.9E+3 | NA | NA | NA | | NA | NA | 3.9E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | NA | NA | NA | | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | NA | NA | NA | | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | NA | NA | NA | | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 1.4E+1 | | 3.2E+2 | NA | NA | NA | | NA | NA | 1.4E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 4.7E+0 | | 6.7E+1 | NA | NA | NA | | NA | NA | 4.7E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 7.6E+0 | | 9.1E+0 | NA | NA | NA | | NA | NA | 7.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 4.8E+0 | | 7.8E+0 | NA | NA | NA | | NA | NA | 4.8E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.5E+3 | | >1.5E+3 | NA | NA | NA | | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 2.3E+2 | | 2.8E+2 | NA | NA | NA | | NA | NA | 2.3E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | 3.5E+2 | | 3.4E+2 | NA | NA | NA | | NA | NA | 3.4E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >8.8E+3 | | >8.8E+3 | NA | NA | NA | | NA | NA | >8.8E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.5E+3 | | >3.5E+3 | NA | NA | NA | | NA | NA | >3.5E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 1.2E+3 | | 1.0E+3 | NA | NA | NA | | NA | NA | 1.0E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | NA | NA | NA | | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | NA | | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >5.2E-1 | | >5.2E-1 | NA | NA | NA | | NA | NA | >5.2E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 1.7E+2 | | 2.9E+3 | NA | NA | NA | | NA | NA | 1.7E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 9.7E-2 | | 2.3E+0 | NA | NA | NA | | NA | NA | 9.7E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.5E+0 | | 3.6E+1 | NA | NA | NA | | NA | NA | 1.5E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 GM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 1.7E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 5.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 2.5E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 1.0E+3 | | | (cm/d) |
| $k_v$ | Vapor permeability | 9.9E-8 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.22 | 0.004 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.03 | 0.246 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 9.95E+2 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Comercial INHALACIÓN/Sector 5 GM/varias familias
Date Completed: 17-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | >7.0E-1 | >7.0E-1 | NA | NA | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >7.5E+0 | >7.5E+0 | NA | NA | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >4.2E+3 | >4.2E+3 | NA | NA | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.6E+4 | >2.6E+4 | NA | NA | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.3E+4 | >1.3E+4 | NA | NA | 1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >3.5E+4 | >3.5E+4 | NA | NA | >3.5E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.3E+4 | 9.7E+3 | NA | NA | 9.7E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 2.0E+0 | 2.9E+0 | NA | NA | 2.0E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | >6.5E+1 | >6.5E+1 | NA | NA | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 GM/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 GM/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | | NA | NA | NA | | >2.2E+3 | | 3.5E+1 | NA | NA | NA | NA | NA | 3.5E+1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | | NA | NA | NA | | >5.6E+2 | | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | | NA | NA | NA | | >3.8E+2 | | 3.2E+1 | NA | NA | NA | NA | NA | 3.2E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | | NA | NA | NA | | >5.4E+4 | | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | | NA | NA | NA | | >1.6E+3 | | 8.2E+2 | NA | NA | NA | NA | NA | 8.2E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | | NA | NA | NA | | >1.3E+3 | | 2.2E+2 | NA | NA | NA | NA | NA | 2.2E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | | NA | NA | NA | | >3.8E+3 | | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | | NA | NA | NA | | >6.9E+1 | | 2.7E+0 | NA | NA | NA | NA | NA | 2.7E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | | NA | NA | NA | | >2.3E+3 | | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | | NA | NA | NA | | >2.2E+4 | | 7.4E+2 | NA | NA | NA | NA | NA | 7.4E+2 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | | NA | NA | NA | | 7.1E+3 | | 3.1E+2 | NA | NA | NA | NA | NA | 3.1E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | | NA | NA | NA | | >2.9E+4 | | 7.1E+2 | NA | NA | NA | NA | NA | 7.1E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | | NA | NA | NA | | 2.3E+2 | | 8.0E+0 | NA | NA | NA | NA | NA | 8.0E+0 | ☐ | NA |
| 7439-97-6 | Mercury ** | | | NA | NA | NA | | >6.6E-3 | | >6.6E-3 | NA | NA | NA | NA | NA | >6.6E-3 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | | NA | NA | NA | | 4.4E+1 | | 7.0E+1 | NA | NA | NA | NA | NA | 4.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | | NA | NA | NA | | >1.4E+2 | | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | | NA | NA | NA | | >8.6E+1 | | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | | NA | NA | NA | | >3.8E+1 | | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | | NA | NA | NA | | #N/A | | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | | NA | NA | NA | | >2.0E+1 | | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | | NA | NA | NA | | 4.0E+2 | | 1.5E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | | NA | NA | NA | | 4.8E+2 | | 7.6E+1 | NA | NA | NA | NA | NA | 7.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | | NA | NA | NA | | >6.3E+2 | | 1.3E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | | NA | NA | NA | | >2.9E+2 | | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | >3.7E+2 | | 3.4E+1 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5-ML/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.6E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.00E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5-ML/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 1.0E+1 | 6.2E+1 | NA | NA | 1.0E+1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | >3.1E+1 | >3.1E+1 | NA | NA | >3.1E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >3.1E+2 | >3.1E+2 | NA | NA | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 5.1E+2 | >5.2E+2 | NA | NA | 5.1E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | >2.0E+2 | >2.0E+2 | NA | NA | >2.0E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5-ML/PAH, BTEX | Date Completed: 1-jun-yy



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | | | X | | X | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | Soil Vol. to Indoor Air | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | 2.7E+0 | 6.2E+0 | NA | NA | NA | NA | NA | 2.7E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | >1.7E+1 | 4.6E+0 | NA | NA | NA | NA | NA | 4.6E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | >6.5E+2 | >6.5E+2 | NA | NA | NA | NA | NA | >6.5E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | >6.2E+2 | 4.5E+2 | NA | NA | NA | NA | NA | 4.5E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | >2.0E+3 | >2.0E+3 | NA | NA | NA | NA | NA | >2.0E+3 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | 2.6E+2 | 3.4E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | 1.8E+2 | 2.2E+2 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 ML/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.6E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.00E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 ML/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 6.0E+1 | | >3.0E+2 | NA | NA | | 6.0E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.3E-1 | | 2.1E+0 | NA | NA | | 3.3E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.0E+0 | | 6.4E+0 | NA | NA | | 1.0E+0 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.8E+2 | | >4.7E+2 | NA | NA | | 1.8E+2 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.4E+4 | | >2.0E+4 | NA | NA | | 1.4E+4 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 3.8E+0 | | 2.3E+1 | NA | NA | | 3.8E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 5.9E+1 | | 3.4E+2 | NA | NA | | 5.9E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 1.0E+3 | | 5.7E+3 | NA | NA | | 1.0E+3 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 4.9E+1 | | >1.2E+2 | NA | NA | | 4.9E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.4E+3 | | >5.5E+3 | NA | NA | | 1.4E+3 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 1.0E+1 | | 6.0E+1 | NA | NA | | 1.0E+1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.9E+3 | | >4.9E+3 | NA | NA | | 2.9E+3 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.1E+2 | | 6.4E+2 | NA | NA | | 1.1E+2 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | >6.2E+3 | | >6.2E+3 | NA | NA | | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | >5.0E+1 | | >5.0E+1 | NA | NA | | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 ML/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | >2.0E+2 | | >2.0E+2 | NA | NA | | >2.0E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 8.8E+1 | | 5.4E+2 | NA | NA | | 8.8E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.5E+1 | | >5.7E+1 | NA | NA | | 2.5E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.5E+1 | | >5.2E+1 | NA | NA | | 1.5E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | >3.0E+1 | | >3.0E+1 | NA | NA | | >3.0E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | >1.3E+3 | | >1.3E+3 | NA | NA | | >1.3E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.2E+1 | | 1.3E+2 | NA | NA | | 2.2E+1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.2E+1 | | 7.6E+1 | NA | NA | | 1.2E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 ML/VOCs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 6.2E+1 | 7.8E+1 | NA | NA | NA | NA | NA | 6.2E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 1.5E-1 | 2.1E+0 | NA | NA | NA | NA | NA | 1.5E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >3.8E+2 | >3.8E+2 | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >3.7E+2 | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 5.8E-1 | 2.4E+0 | NA | NA | NA | NA | NA | 5.8E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 1.5E+2 | 1.9E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 1.7E+3 | >7.5E+3 | NA | NA | NA | NA | NA | 1.7E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.4E+0 | 1.8E+0 | NA | NA | NA | NA | NA | 1.4E+0 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 9.6E+0 | 1.2E+2 | NA | NA | NA | NA | NA | 9.6E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 2.1E+3 | 2.4E+3 | NA | NA | NA | NA | NA | 2.1E+3 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >5.3E+4 | 4.8E+3 | NA | NA | NA | NA | NA | 4.8E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >4.0E+4 | 5.0E+3 | NA | NA | NA | NA | NA | 5.0E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >2.9E+3 | >2.9E+3 | NA | NA | NA | NA | NA | >2.9E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 3.3E+2 | 4.2E+2 | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.4E+2 | >9.4E+2 | NA | NA | NA | NA | NA | >9.4E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 2.6E+2 | 6.5E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 3.5E+0 | 4.3E+0 | NA | NA | NA | NA | NA | 3.5E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 5.4E+2 | 1.0E+3 | NA | NA | NA | NA | NA | 5.4E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.3E+1 | 7.3E+1 | NA | NA | NA | NA | NA | 2.3E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >8.4E+3 | 2.7E+3 | NA | NA | NA | NA | NA | 2.7E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >9.2E+2 | >9.2E+2 | NA | NA | NA | NA | NA | >9.2E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 1.7E+3 | NA | NA | NA | NA | NA | 1.7E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 1.5E+2 | 3.2E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.9E+1 | 6.7E+1 | NA | NA | NA | NA | NA | 4.9E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 8.3E+1 | 1.0E+2 | NA | NA | NA | NA | NA | 8.3E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 5.3E+1 | 6.7E+1 | NA | NA | NA | NA | NA | 5.3E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | >2.5E+3 | 1.0E+3 | NA | NA | NA | NA | NA | 1.0E+3 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >4.6E+2 | >4.6E+2 | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.4E+3 | >9.4E+3 | NA | NA | NA | NA | NA | >9.4E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >8.7E-1 | >8.7E-1 | NA | NA | NA | NA | NA | >8.7E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 1.7E+3 | 2.9E+3 | NA | NA | NA | NA | NA | 1.7E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 2.0E+0 | 2.4E+0 | NA | NA | NA | NA | NA | 2.0E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 1.6E+0 | 3.6E+1 | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 ML/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 6.3E+7 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.6E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 8.8E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.3E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.3E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 7.40E+2 | (cm) |
| $A_b$ | Foundation area | NA | 3.90E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 2.90E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.70E+2 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 1.00E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 ML/varias familias
Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | >7.0E-1 | | >7.0E-1 | NA | NA | | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >7.5E+0 | | >7.5E+0 | NA | NA | | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | >2.6E+4 | | 1.9E+4 | NA | NA | | 1.9E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 9.1E+3 | | >1.3E+4 | NA | NA | | 9.1E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | >3.5E+4 | | 1.9E+4 | NA | NA | | 1.9E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 4.6E+3 | | 1.9E+3 | NA | NA | | 1.9E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 2.0E+0 | | >5.4E+0 | NA | NA | | 2.0E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | >6.5E+1 | | >6.5E+1 | NA | NA | | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 5 ML/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 5 ML/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 2300 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | | Commercial | | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | | >2.2E+3 | | 4.3E+2 | NA | NA | NA | NA | NA | 4.3E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >5.6E+2 | | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >3.9E+2 | | >3.9E+2 | NA | NA | NA | NA | NA | >3.9E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >5.4E+4 | | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.8E+3 | | 1.1E+3 | NA | NA | NA | NA | NA | 1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >2.1E+3 | | 5.7E+2 | NA | NA | NA | NA | NA | 5.7E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >3.8E+3 | | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >6.9E+1 | | 1.8E+1 | NA | NA | NA | NA | NA | 1.8E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.3E+3 | | 1.9E+3 | NA | NA | NA | NA | NA | 1.9E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | >2.7E+4 | | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 7.9E+3 | | 1.4E+3 | NA | NA | NA | NA | NA | 1.4E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | >3.5E+4 | | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 8.8E+2 | | 4.5E+1 | NA | NA | NA | NA | NA | 4.5E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >1.6E-2 | | >1.6E-2 | NA | NA | NA | NA | NA | >1.6E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 2.4E+1 | | 2.4E+2 | NA | NA | NA | NA | NA | 2.4E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >1.4E+2 | | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >8.6E+1 | | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >3.8E+1 | | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >2.0E+1 | | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | 7.7E+2 | | 9.7E+2 | NA | NA | NA | NA | NA | 7.7E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | 9.4E+2 | | >1.0E+3 | NA | NA | NA | NA | NA | 9.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >6.3E+2 | | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >2.9E+2 | | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >3.7E+2 | | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/PAH, BTE | Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | 1.9E+0 | | 6.4E+1 | NA | NA | | 1.9E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | 1.6E+1 | | >3.1E+1 | NA | NA | | 1.6E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | 2.8E+2 | | >3.1E+2 | NA | NA | | 2.8E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | 1.2E+2 | | >5.2E+2 | NA | NA | | 1.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | 4.8E+1 | | >2.0E+2 | NA | NA | | 4.8E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/PAH, B | Date Completed: 1-jun-yy



## SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.0E-1 | 1.8E+1 | NA | NA | NA | NA | NA | 2.0E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 4.6E+0 | NA | NA | NA | NA | NA | 4.6E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 2.0E+2 | >6.5E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 6.4E+1 | 5.4E+2 | NA | NA | NA | NA | NA | 6.4E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 2.6E+2 | >2.0E+3 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 2.3E+1 | >8.0E+2 | NA | NA | NA | NA | NA | 2.3E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 1.6E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 220 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 220 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 4.8E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 2.60E+2 | NA | (cm) |
| $A_b$ | Foundation area | 7.00E+6 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 1.10E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 6.81E-2 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 4.8E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 2.60E+2 | NA | (cm) |
| $A_b$ | Foundation area | 7.00E+6 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 1.10E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 6.81E-2 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/VOCs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 8.5E+0 | | 2.8E+2 | NA | NA | 8.5E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 3.9E-2 | | 1.4E+0 | NA | NA | 3.9E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 1.2E-1 | | 4.1E+0 | NA | NA | 1.2E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 2.5E+1 | | >4.7E+2 | NA | NA | 2.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 2.0E+3 | | >2.0E+4 | NA | NA | 2.0E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 4.5E-1 | | 1.5E+1 | NA | NA | 4.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 8.5E+0 | | 2.7E+2 | NA | NA | 8.5E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 1.4E+2 | | 4.5E+3 | NA | NA | 1.4E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | 3.3E+4 | | >4.1E+4 | NA | NA | 3.3E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 7.0E+0 | | >1.2E+2 | NA | NA | 7.0E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 2.0E+2 | | >5.5E+3 | NA | NA | 2.0E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 1.2E+0 | | 3.9E+1 | NA | NA | 1.2E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 4.2E+2 | | >4.9E+3 | NA | NA | 4.2E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.5E+1 | | 5.0E+2 | NA | NA | 1.5E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 3.1E+3 | | >6.2E+3 | NA | NA | 3.1E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | >5.0E+1 | | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/VOCs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 4.1E+1 | | >2.0E+2 | NA | NA | 4.1E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 1.0E+1 | | 3.5E+2 | NA | NA | 1.0E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 3.6E+0 | | >5.7E+1 | NA | NA | 3.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 2.2E+0 | | >5.2E+1 | NA | NA | 2.2E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.2E+1 | | >3.0E+1 | NA | NA | 1.2E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 9.0E+2 | | >9.8E+2 | NA | NA | 9.0E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 2.8E+2 | | >1.3E+3 | NA | NA | 2.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 2.7E+0 | | 8.5E+1 | NA | NA | 2.7E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 1.4E+0 | | 4.9E+1 | NA | NA | 1.4E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/VOCs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 3.4E+0 | 5.3E+1 | NA | NA | NA | NA | NA | 3.4E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 3.2E-2 | 3.7E+0 | NA | NA | NA | NA | NA | 3.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | 2.0E+2 | >3.3E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | 1.5E+2 | >3.8E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | 1.1E+2 | >3.7E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 3.8E-2 | 4.3E+0 | NA | NA | NA | NA | NA | 3.8E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 8.4E+0 | 1.4E+2 | NA | NA | NA | NA | NA | 8.4E+0 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 2.4E+2 | >7.5E+3 | NA | NA | NA | NA | NA | 2.4E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 6.6E-2 | 2.8E+0 | NA | NA | NA | NA | NA | 6.6E-2 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 2.2E+0 | 2.5E+2 | NA | NA | NA | NA | NA | 2.2E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 1.2E+2 | 1.7E+3 | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | 4.1E+4 | 3.6E+3 | NA | NA | NA | NA | NA | 3.6E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >4.0E+4 | 3.7E+3 | NA | NA | NA | NA | NA | 3.7E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | 7.8E+2 | >2.9E+3 | NA | NA | NA | NA | NA | 7.8E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 1.9E+1 | 2.9E+2 | NA | NA | NA | NA | NA | 1.9E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | 8.2E+2 | >9.4E+2 | NA | NA | NA | NA | NA | 8.2E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 1.4E+1 | 1.4E+3 | NA | NA | NA | NA | NA | 1.4E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 1.6E-1 | 2.5E+0 | NA | NA | NA | NA | NA | 1.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 3.0E+1 | 2.2E+3 | NA | NA | NA | NA | NA | 3.0E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 1.4E+0 | 1.6E+2 | NA | NA | NA | NA | NA | 1.4E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | 3.3E+3 | 2.0E+3 | NA | NA | NA | NA | NA | 2.0E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 2.0E+2 | >9.2E+2 | NA | NA | NA | NA | NA | 2.0E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 8.4E+0 | >3.6E+2 | NA | NA | NA | NA | NA | 8.4E+0 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 2.3E+0 | 1.2E+2 | NA | NA | NA | NA | NA | 2.3E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 4.6E+0 | 7.1E+1 | NA | NA | NA | NA | NA | 4.6E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 2.9E+0 | 4.6E+1 | NA | NA | NA | NA | NA | 2.9E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | 1.2E+3 | >1.5E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 1.9E+2 | 7.8E+2 | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | 2.1E+2 | >4.6E+2 | NA | NA | NA | NA | NA | 2.1E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.4E+3 | 7.8E+3 | NA | NA | NA | NA | NA | 7.8E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | 7.8E+2 | 1.0E+3 | NA | NA | NA | NA | NA | 7.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >8.7E-1 | >8.7E-1 | NA | NA | NA | NA | NA | >8.7E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 9.6E+1 | >3.8E+3 | NA | NA | NA | NA | NA | 9.6E+1 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 9.1E-2 | 4.1E+0 | NA | NA | NA | NA | NA | 9.1E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 5.7E-1 | 6.5E+1 | NA | NA | NA | NA | NA | 5.7E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 2.1E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 4.8E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 8.8E+2 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 9.0E+2 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 9.0E+2 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 8.7E+2 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 2.60E+2 | NA | (cm) |
| $A_b$ | Foundation area | 7.00E+6 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 1.10E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 6.81E-2 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/varias fan | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | 5.6E-1 | >7.0E-1 | NA | NA | 5.6E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 7.1E+0 | >7.5E+0 | NA | NA | 7.1E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >3.4E-1 | >3.4E-1 | NA | NA | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.1E+3 | >1.1E+3 | NA | NA | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 2.8E+3 | >4.2E+3 | NA | NA | 2.8E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >2.0E-1 | >2.0E-1 | NA | NA | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.5E-1 | >2.5E-1 | NA | NA | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 5.4E+3 | 1.5E+4 | NA | NA | 5.4E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.3E+3 | >1.3E+4 | NA | NA | 1.3E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 5.4E+3 | 1.5E+4 | NA | NA | 5.4E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 5.4E+2 | 1.3E+3 | NA | NA | 5.4E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >6.0E-2 | >6.0E-2 | NA | NA | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 2.8E-1 | >5.4E+0 | NA | NA | 2.8E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >4.3E-1 | >4.3E-1 | NA | NA | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >3.4E-2 | >3.4E-2 | NA | NA | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >7.6E-4 | >7.6E-4 | NA | NA | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >1.7E-5 | >1.7E-5 | NA | NA | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 3.0E+1 | >1.3E+2 | NA | NA | 3.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 2.8E+1 | >6.5E+1 | NA | NA | 2.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >2.5E+1 | >2.5E+1 | NA | NA | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >5.8E+0 | >5.8E+0 | NA | NA | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/varias fan | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Residencial INHALACIÓN/Sector 6 GUARDERÍA/varias | Date Completed: 17-jun-yy



### SOIL (30 - 900 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | | Residential | | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | | NA | NA | NA | | 3.3E+2 | | 2.7E+2 | NA | NA | NA | NA | NA | 2.7E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | | NA | NA | NA | | >5.6E+2 | | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | | NA | NA | NA | | 7.3E+1 | | 3.0E+2 | NA | NA | NA | NA | NA | 7.3E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | | NA | NA | NA | | >5.4E+4 | | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | | NA | NA | NA | | >1.8E+3 | | 8.0E+2 | NA | NA | NA | NA | NA | 8.0E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | | NA | NA | NA | | 1.2E+3 | | 4.3E+2 | NA | NA | NA | NA | NA | 4.3E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | | NA | NA | NA | | >3.8E+3 | | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | | NA | NA | NA | | >6.9E+1 | | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | | NA | NA | NA | | >2.3E+3 | | 1.4E+3 | NA | NA | NA | NA | NA | 1.4E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | | NA | NA | NA | | 5.3E+3 | | 1.0E+3 | NA | NA | NA | NA | NA | 1.0E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | | NA | NA | NA | | 9.3E+2 | | 1.1E+3 | NA | NA | NA | NA | NA | 9.3E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | | NA | NA | NA | | 5.0E+3 | | 9.7E+2 | NA | NA | NA | NA | NA | 9.7E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | | NA | NA | NA | | 1.0E+2 | | 2.6E+1 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | | NA | NA | NA | | >1.6E-2 | | >1.6E-2 | NA | NA | NA | NA | NA | >1.6E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | | NA | NA | NA | | 4.5E+0 | | >2.4E+2 | NA | NA | NA | NA | NA | 4.5E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | | NA | NA | NA | | 3.2E+1 | | >1.4E+2 | NA | NA | NA | NA | NA | 3.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | | NA | NA | NA | | >8.6E+1 | | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | | NA | NA | NA | | >3.8E+1 | | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | | NA | NA | NA | | #N/A | | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | | NA | NA | NA | | >2.0E+1 | | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | | NA | NA | NA | | 4.3E+1 | | 1.1E+3 | NA | NA | NA | NA | NA | 4.3E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | | NA | NA | NA | | 5.2E+1 | | 8.1E+2 | NA | NA | NA | NA | NA | 5.2E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | | NA | NA | NA | | 2.9E+2 | | >6.3E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | | NA | NA | NA | | >2.9E+2 | | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | | NA | NA | NA | | 7.3E+1 | | >3.7E+2 | NA | NA | NA | NA | NA | 7.3E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | | NA | NA | NA | | NC | | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.6E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 2.0E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.7E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.7E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+4 | (cm) |
| $A_b$ | Foundation area | NA | 6.15E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 6.55E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 4.90E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/PAH, Date Completed: 1-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 83-32-9 | Acenaphthene ** | | NA | NA | NA | | >3.9E+0 | | >3.9E+0 | NA | NA | | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | NA | NA | NA | | >1.8E+3 | | 8.1E+1 | NA | NA | | 8.1E+1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | NA | NA | NA | | >5.7E-3 | | >5.7E-3 | NA | NA | | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | NA | NA | NA | | >1.6E-3 | | >1.6E-3 | NA | NA | | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | NA | NA | NA | | >1.5E-2 | | >1.5E-2 | NA | NA | | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | NA | NA | NA | | >8.0E-4 | | >8.0E-4 | NA | NA | | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | NA | NA | NA | | >5.0E-4 | | >5.0E-4 | NA | NA | | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | NA | NA | NA | | >1.7E+2 | | >1.7E+2 | NA | NA | | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | NA | NA | NA | | >3.8E-3 | | >3.8E-3 | NA | NA | | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | NA | NA | NA | | >3.1E+1 | | >3.1E+1 | NA | NA | | >3.1E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | NA | NA | NA | | >3.1E+2 | | >3.1E+2 | NA | NA | | >3.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | NA | NA | NA | | >5.2E+2 | | >5.2E+2 | NA | NA | | >5.2E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | NA | NA | NA | | >2.0E+2 | | >2.0E+2 | NA | NA | | >2.0E+2 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/PA | Date Completed: 1-jun-yy



## SOIL (30 - 2400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.3E+2 | 1.5E+0 | NA | NA | NA | NA | NA | 1.5E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 1.2E+0 | NA | NA | NA | NA | NA | 1.2E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >6.5E+2 | >6.5E+2 | NA | NA | NA | NA | NA | >6.5E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | >6.2E+2 | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | >2.0E+3 | 9.3E+2 | NA | NA | NA | NA | NA | 9.3E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | >8.0E+2 | 8.2E+1 | NA | NA | NA | NA | NA | 8.2E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | >5.2E+2 | 5.6E+1 | NA | NA | NA | NA | NA | 5.6E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/VOCs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.6E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 2.0E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.7E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.7E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 6.15E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 6.55E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 4.90E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/VOC | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 2.0E+2 | >3.0E+2 | NA | NA | 2.0E+2 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 1.0E+0 | 2.5E+0 | NA | NA | 1.0E+0 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 3.1E+0 | 7.8E+0 | NA | NA | 3.1E+0 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | >4.7E+2 | >4.7E+2 | NA | NA | >4.7E+2 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | >2.0E+4 | >2.0E+4 | NA | NA | >2.0E+4 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.2E+1 | 3.1E+1 | NA | NA | 1.2E+1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 2.1E+2 | 5.2E+2 | NA | NA | 2.1E+2 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 3.7E+3 | 8.9E+3 | NA | NA | 3.7E+3 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | >1.2E+2 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 4.7E+3 | >5.5E+3 | NA | NA | 4.7E+3 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 3.6E+1 | 8.8E+1 | NA | NA | 3.6E+1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | >4.9E+3 | >4.9E+3 | NA | NA | >4.9E+3 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 3.4E+2 | 8.4E+2 | NA | NA | 3.4E+2 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >5.0E+1 | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/VOC: | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | >2.0E+2 | | >2.0E+2 | NA | NA | | >2.0E+2 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 2.8E+2 | | 6.9E+2 | NA | NA | | 2.8E+2 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | >5.7E+1 | | >5.7E+1 | NA | NA | | >5.7E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 4.9E+1 | | >5.2E+1 | NA | NA | | 4.9E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | >3.0E+1 | | >3.0E+1 | NA | NA | | >3.0E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | >1.3E+3 | | >1.3E+3 | NA | NA | | >1.3E+3 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 8.0E+1 | | 2.0E+2 | NA | NA | | 8.0E+1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 3.7E+1 | | 9.3E+1 | NA | NA | | 3.7E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/VOC | Date Completed: 17-jun-yy



### SOIL (30 - 2400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 5.3E+1 | 1.9E+1 | NA | NA | NA | NA | NA | 1.9E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 1.8E-1 | 4.9E-1 | NA | NA | NA | NA | NA | 1.8E-1 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >3.8E+2 | >3.8E+2 | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >3.7E+2 | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 4.9E-1 | 5.8E-1 | NA | NA | NA | NA | NA | 4.9E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 1.3E+2 | 4.8E+1 | NA | NA | NA | NA | NA | 4.8E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 1.4E+3 | 3.1E+3 | NA | NA | NA | NA | NA | 1.4E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 1.2E+0 | 4.5E-1 | NA | NA | NA | NA | NA | 4.5E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.0E+1 | 2.8E+1 | NA | NA | NA | NA | NA | 1.0E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 1.9E+3 | 6.1E+2 | NA | NA | NA | NA | NA | 6.1E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >5.3E+4 | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >4.0E+4 | 1.2E+3 | NA | NA | NA | NA | NA | 1.2E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >2.9E+3 | >2.9E+3 | NA | NA | NA | NA | NA | >2.9E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 2.9E+2 | 1.0E+2 | NA | NA | NA | NA | NA | 1.0E+2 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.4E+2 | >9.4E+2 | NA | NA | NA | NA | NA | >9.4E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 2.2E+2 | 1.6E+2 | NA | NA | NA | NA | NA | 1.6E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 3.0E+0 | 1.1E+0 | NA | NA | NA | NA | NA | 1.1E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 4.6E+2 | 2.5E+2 | NA | NA | NA | NA | NA | 2.5E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.0E+1 | 1.7E+1 | NA | NA | NA | NA | NA | 1.7E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >8.4E+3 | 6.7E+2 | NA | NA | NA | NA | NA | 6.7E+2 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >9.2E+2 | 4.1E+2 | NA | NA | NA | NA | NA | 4.1E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 4.2E+2 | NA | NA | NA | NA | NA | 4.2E+2 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 1.3E+2 | 7.8E+1 | NA | NA | NA | NA | NA | 7.8E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 4.2E+1 | 1.6E+1 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 7.1E+1 | 2.6E+1 | NA | NA | NA | NA | NA | 2.6E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 4.5E+1 | 1.7E+1 | NA | NA | NA | NA | NA | 1.7E+1 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | >2.5E+3 | 2.6E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >4.6E+2 | >4.6E+2 | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.4E+3 | 2.6E+3 | NA | NA | NA | NA | NA | 2.6E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.8E+3 | 2.9E+3 | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.5E+3 | 4.2E+2 | NA | NA | NA | NA | NA | 4.2E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | 5.8E+2 | NA | NA | NA | NA | NA | 5.8E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >8.7E-1 | >8.7E-1 | NA | NA | NA | NA | NA | >8.7E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 1.5E+3 | 6.8E+2 | NA | NA | NA | NA | NA | 6.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 1.7E+0 | 6.1E-1 | NA | NA | NA | NA | NA | 6.1E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 3.2E+0 | 8.7E+0 | NA | NA | NA | NA | NA | 3.2E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/ varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 1.6E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 2.0E+4 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 1.7E+1 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.7E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.6E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E-1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-11 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.7E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 2.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 2.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.414 | 0.3 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.046 | 0.16 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 6.15E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 6.55E+4 | (cm) |
| ER | Building air exchange rate | NA | 1.00E-3 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 4.90E-1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/ varia | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | >7.0E-1 | | >7.0E-1 | NA | NA | | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >7.5E+0 | | >7.5E+0 | NA | NA | | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | >2.6E+4 | | >2.6E+4 | NA | NA | | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | >1.3E+4 | | >1.3E+4 | NA | NA | | >1.3E+4 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | >3.5E+4 | | 3.0E+4 | NA | NA | | 3.0E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 1.1E+4 | | 3.2E+3 | NA | NA | | 3.2E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | >5.4E+0 | | >5.4E+0 | NA | NA | | >5.4E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | >1.3E+2 | | >1.3E+2 | NA | NA | | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | >6.5E+1 | | >6.5E+1 | NA | NA | | >6.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/ varia | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial INHALACIÓN/Sector 8 PARQUE CIENCIA/ v | Date Completed: 17-jun-yy



### SOIL (30 - 2400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | >2.2E+3 | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | >3.9E+2 | 9.9E+1 | NA | NA | NA | NA | NA | 9.9E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.8E+3 | 2.7E+2 | NA | NA | NA | NA | NA | 2.7E+2 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >2.1E+3 | 1.4E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | 3.4E+3 | NA | NA | NA | NA | NA | 3.4E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 4.6E+0 | NA | NA | NA | NA | NA | 4.6E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | 4.7E+2 | NA | NA | NA | NA | NA | 4.7E+2 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | >2.7E+4 | 3.3E+2 | NA | NA | NA | NA | NA | 3.3E+2 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | >1.4E+4 | 3.5E+2 | NA | NA | NA | NA | NA | 3.5E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | >3.5E+4 | 3.2E+2 | NA | NA | NA | NA | NA | 3.2E+2 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.9E+3 | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.6E-2 | >1.6E-2 | NA | NA | NA | NA | NA | >1.6E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 2.1E+1 | 5.7E+1 | NA | NA | NA | NA | NA | 2.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | >1.4E+2 | >1.4E+2 | NA | NA | NA | NA | NA | >1.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 6.6E+2 | 2.4E+2 | NA | NA | NA | NA | NA | 2.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 8.0E+2 | 2.9E+2 | NA | NA | NA | NA | NA | 2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | >3.7E+2 | >3.7E+2 | NA | NA | NA | NA | NA | >3.7E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial lúdico INHALACIÓN/Sector 9/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 4.03E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 3.22E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 2.85E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial lúdico INHALACIÓN/Sector 9/PAH, BTEX | Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 2.2E+0 | 9.2E+0 | NA | NA | 2.2E+0 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | >1.7E+2 | >1.7E+2 | NA | NA | >1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.3E+1 | >3.1E+1 | NA | NA | 1.3E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 2.5E+2 | >3.1E+2 | NA | NA | 2.5E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 1.1E+2 | 4.7E+2 | NA | NA | 1.1E+2 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 4.6E+1 | 2.0E+2 | NA | NA | 4.6E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial lúdico INHALACIÓN/Sector 9/PAH, BTEX | Date Completed: 1-jun-yy



### SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 3.8E-1 | 4.2E+0 | NA | NA | NA | NA | NA | 3.8E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 8.4E+0 | NA | NA | NA | NA | NA | 8.4E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 3.5E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 3.5E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 1.1E+2 | 1.0E+2 | NA | NA | NA | NA | NA | 1.0E+2 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 4.7E+2 | 4.1E+2 | NA | NA | NA | NA | NA | 4.1E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 4.0E+1 | 2.3E+2 | NA | NA | NA | NA | NA | 4.0E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 2.7E+1 | 8.7E+1 | NA | NA | NA | NA | NA | 2.7E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN S9/COVs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 4.03E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 3.22E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 2.85E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN S9/COVs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | Commercial | Commercial | None | None | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 1.2E+1 | 4.5E+1 | NA | NA | 1.2E+1 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 7.6E-2 | 3.5E-1 | NA | NA | 7.6E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >1.1E+1 | >1.1E+1 | NA | NA | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >1.8E+1 | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | >1.5E+1 | >1.5E+1 | NA | NA | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 2.4E-1 | 1.1E+0 | NA | NA | 2.4E-1 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 3.7E+1 | 1.5E+2 | NA | NA | 3.7E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 3.2E+3 | 1.3E+4 | NA | NA | 3.2E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 8.0E-1 | 3.2E+0 | NA | NA | 8.0E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.1E+1 | 3.7E+1 | NA | NA | 1.1E+1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 1.8E+2 | 5.5E+2 | NA | NA | 1.8E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.1E+4 | >4.1E+4 | NA | NA | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >2.9E+4 | >2.9E+4 | NA | NA | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >9.0E-1 | >9.0E-1 | NA | NA | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | 9.9E+0 | 3.7E+1 | NA | NA | 9.9E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >1.5E+2 | >1.5E+2 | NA | NA | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 3.0E+2 | 1.2E+3 | NA | NA | 3.0E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 2.0E+0 | 6.7E+0 | NA | NA | 2.0E+0 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 6.0E+2 | 2.3E+3 | NA | NA | 6.0E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 2.3E+1 | 9.4E+1 | NA | NA | 2.3E+1 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >6.2E+3 | >6.2E+3 | NA | NA | >6.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >6.0E-3 | >6.0E-3 | NA | NA | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | >5.0E+1 | >5.0E+1 | NA | NA | >5.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >6.5E-1 | >6.5E-1 | NA | NA | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >1.4E+1 | >1.4E+1 | NA | NA | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | >6.4E+0 | >6.4E+0 | NA | NA | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | >5.2E+0 | >5.2E+0 | NA | NA | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Comercial Lúdico INHALACIÓN S9/COVs
Date Completed: 17-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 6.6E+1 | | >2.0E+2 | NA | NA | 6.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 2.0E+1 | | 8.4E+1 | NA | NA | 2.0E+1 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 5.3E+0 | | 2.2E+1 | NA | NA | 5.3E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 3.4E+0 | | 1.4E+1 | NA | NA | 3.4E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.4E+1 | | >3.0E+1 | NA | NA | 1.4E+1 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 4.5E+2 | | >1.3E+3 | NA | NA | 4.5E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 4.2E+0 | | 1.4E+1 | NA | NA | 4.2E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 2.8E+0 | | 1.3E+1 | NA | NA | 2.8E+0 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN S9/COVs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



## SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | 9.5E+0 | 8.7E+0 | NA | NA | NA | NA | NA | 8.7E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | 2.9E-2 | 1.4E+0 | NA | NA | NA | NA | NA | 2.9E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | >3.8E+2 | >3.8E+2 | NA | NA | NA | NA | NA | >3.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | 3.0E+2 | 2.6E+2 | NA | NA | NA | NA | NA | 2.6E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | 9.2E-2 | 1.6E+0 | NA | NA | NA | NA | NA | 9.2E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | 2.3E+1 | 4.4E+1 | NA | NA | NA | NA | NA | 2.3E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | 2.1E+2 | >5.7E+3 | NA | NA | NA | NA | NA | 2.1E+2 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | 2.1E-1 | 1.1E+0 | NA | NA | NA | NA | NA | 2.1E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | 1.7E+0 | 7.9E+1 | NA | NA | NA | NA | NA | 1.7E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | 3.3E+2 | 3.0E+2 | NA | NA | NA | NA | NA | 3.0E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | >4.9E+4 | 1.2E+4 | NA | NA | NA | NA | NA | 1.2E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | >3.7E+4 | 1.2E+4 | NA | NA | NA | NA | NA | 1.2E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | >4.5E+1 | >4.5E+1 | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | 2.2E+3 | 2.0E+3 | NA | NA | NA | NA | NA | 2.0E+3 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | 5.3E+1 | 4.6E+1 | NA | NA | NA | NA | NA | 4.6E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | >9.3E+2 | >9.3E+2 | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | 3.4E+1 | 4.4E+2 | NA | NA | NA | NA | NA | 3.4E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | 4.9E-1 | 9.4E-1 | NA | NA | NA | NA | NA | 4.9E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | 6.9E+1 | 6.9E+2 | NA | NA | NA | NA | NA | 6.9E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | 3.2E+0 | 4.9E+1 | NA | NA | NA | NA | NA | 3.2E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | >7.7E+3 | 3.2E+3 | NA | NA | NA | NA | NA | 3.2E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | >1.7E+0 | >1.7E+0 | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | 1.6E+2 | 5.8E+2 | NA | NA | NA | NA | NA | 1.6E+2 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | >2.1E+2 | >2.1E+2 | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | >5.7E+3 | 4.0E+3 | NA | NA | NA | NA | NA | 4.0E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | >2.6E+3 | >2.6E+3 | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | >3.3E+2 | >3.3E+2 | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | >4.8E+0 | >4.8E+0 | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | 2.3E+1 | 2.2E+2 | NA | NA | NA | NA | NA | 2.3E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | 7.5E+0 | 4.5E+1 | NA | NA | NA | NA | NA | 7.5E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | 1.3E+1 | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | 8.2E+0 | 7.3E+0 | NA | NA | NA | NA | NA | 7.3E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | >1.5E+3 | >1.5E+3 | NA | NA | NA | NA | NA | >1.5E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | 4.8E+2 | 3.5E+2 | NA | NA | NA | NA | NA | 3.5E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | >4.6E+2 | >4.6E+2 | NA | NA | NA | NA | NA | >4.6E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | >9.0E+3 | >9.0E+3 | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | >3.6E+3 | >3.6E+3 | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | >1.4E+3 | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | >1.4E+3 | >1.4E+3 | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | >1.1E+2 | >1.1E+2 | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | >6.6E-1 | >6.6E-1 | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | 2.7E+2 | 1.9E+3 | NA | NA | NA | NA | NA | 2.7E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | 1.4E-1 | 1.5E+0 | NA | NA | NA | NA | NA | 1.4E-1 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | 5.2E-1 | 2.4E+1 | NA | NA | NA | NA | NA | 5.2E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Lúdico INHALACIÓN/Sector 9/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Commercial | None | None |
| Volatilization from Groundwater | Commercial | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Commercial | NA | NA |
| Volatilization from Groundwater | Commercial | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | 3.70E+2 | (cm) |
| $A_b$ | Foundation area | NA | 4.03E+7 | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | 3.22E+4 | (cm) |
| ER | Building air exchange rate | NA | 2.30E-4 | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | 3.00E+1 | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | 3.00E+1 | (cm) |
| $\eta$ | Foundation crack fraction | NA | 1.00E-2 | (-) |
| dP | Indoor/outdoor differential pressure | NA | 4.00E+1 | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | 2.85E+1 | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 9/varias familias | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | >7.0E-1 | | >7.0E-1 | NA | NA | | >7.0E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | >7.5E+0 | | >7.5E+0 | NA | NA | | >7.5E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | >2.6E+4 | | >2.6E+4 | NA | NA | | >2.6E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 5.4E+3 | | >1.3E+4 | NA | NA | | 5.4E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | 2.8E+4 | | >3.5E+4 | NA | NA | | 2.8E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 3.4E+3 | | 7.3E+3 | NA | NA | | 3.4E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 4.8E-1 | | 2.1E+0 | NA | NA | | 4.8E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | 5.0E+1 | | >1.3E+2 | NA | NA | | 5.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | 4.5E+1 | | >6.5E+1 | NA | NA | | 4.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 9/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Commercial | | Commercial | None | None | | (mg/L) | "■" if yes | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | >9.3E+0 | | >9.3E+0 | NA | NA | | >9.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Lúdico INHALACIÓN/Sector 9/varias familias | Date Completed: 17-jun-yy



### SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | None | None | None | Commercial | Commercial | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 1.2E+3 | 1.5E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 2.1E+2 | 1.4E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | >1.7E+3 | NA | NA | NA | NA | NA | >1.7E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | >1.6E+3 | 9.3E+2 | NA | NA | NA | NA | NA | 9.3E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 1.1E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 1.6E+4 | 2.8E+3 | NA | NA | NA | NA | NA | 2.8E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 2.8E+3 | 1.3E+3 | NA | NA | NA | NA | NA | 1.3E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 1.5E+4 | 2.7E+3 | NA | NA | NA | NA | NA | 2.7E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 1.9E+2 | 1.1E+2 | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | >1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | >1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 4.1E+0 | 1.6E+2 | NA | NA | NA | NA | NA | 4.1E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 9.6E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 9.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 1.3E+2 | 3.5E+2 | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 1.5E+2 | 1.7E+2 | NA | NA | NA | NA | NA | 1.5E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | >6.3E+2 | >6.3E+2 | NA | NA | NA | NA | NA | >6.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 2.1E+2 | 1.8E+2 | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Sanitario INHALACIÓN/Sector 9/PAH, BTEX

Completed By: IDOM
Date Completed: 1-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 3.70E+2 | NA | (cm) |
| $A_b$ | Foundation area | 5.48E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.98E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 3.50E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Sanitario INHALACIÓN/Sector 9/PAH, BTEX
Date Completed: 1-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X GW Vol. to Indoor Air | X Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | | None | None | None | Residential | Residential | None | None | (mg/L) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >3.9E+0 | >3.9E+0 | NA | NA | >3.9E+0 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 7.4E-1 | 5.0E+0 | NA | NA | 7.4E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >5.7E-3 | >5.7E-3 | NA | NA | >5.7E-3 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.6E-3 | >1.6E-3 | NA | NA | >1.6E-3 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.5E-2 | >1.5E-2 | NA | NA | >1.5E-2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >8.0E-4 | >8.0E-4 | NA | NA | >8.0E-4 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >5.0E-4 | >5.0E-4 | NA | NA | >5.0E-4 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 1.7E+2 | >1.7E+2 | NA | NA | 1.7E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >3.8E-3 | >3.8E-3 | NA | NA | >3.8E-3 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 5.3E+0 | 2.7E+1 | NA | NA | 5.3E+0 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 1.0E+2 | >3.1E+2 | NA | NA | 1.0E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 4.5E+1 | 3.1E+2 | NA | NA | 4.5E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 1.9E+1 | 1.3E+2 | NA | NA | 1.9E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Sanitario INHALACIÓN/Sector 9/PAH, BTEX | Date Completed: 1-jun-yy



### SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/kg) | | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 83-32-9 | Acenaphthene ** | | | NA | NA | NA | >2.8E+2 | >2.8E+2 | NA | NA | NA | NA | NA | >2.8E+2 | ☐ | NA |
| 208-96-8 | Acenaphthylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 120-12-7 | Anthracene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 71-43-2 | Benzene ** | | | NA | NA | NA | 1.3E-1 | 2.7E+0 | NA | NA | NA | NA | NA | 1.3E-1 | ☐ | NA |
| 56-55-3 | Benzo(a)Anthracene ** | | | NA | NA | NA | >2.3E+1 | >2.3E+1 | NA | NA | NA | NA | NA | >2.3E+1 | ☐ | NA |
| 50-32-8 | Benzo(a)Pyrene ** | | | NA | NA | NA | >1.7E+1 | 5.1E+0 | NA | NA | NA | NA | NA | 5.1E+0 | ☐ | NA |
| 205-99-2 | Benzo(b)Fluoranthene ** | | | NA | NA | NA | >1.9E+2 | >1.9E+2 | NA | NA | NA | NA | NA | >1.9E+2 | ☐ | NA |
| 191-24-2 | Benzo(g,h,i)Perylene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 207-08-9 | Benzo(k)Fluoranthene ** | | | NA | NA | NA | >1.0E+1 | >1.0E+1 | NA | NA | NA | NA | NA | >1.0E+1 | ☐ | NA |
| 53-70-3 | Dibenzo(a,h)Anthracene ** | | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 206-44-0 | Fluoranthene *** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-41-4 | Ethylbenzene ** | | | NA | NA | NA | 1.4E+2 | >6.3E+2 | NA | NA | NA | NA | NA | 1.4E+2 | ☐ | NA |
| 86-73-7 | Fluorene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 193-39-5 | Indeno(1,2,3,c,d)Pyrene ** | | | NA | NA | NA | >1.2E+2 | >1.2E+2 | NA | NA | NA | NA | NA | >1.2E+2 | ☐ | NA |
| 91-20-3 | Naphthalene ** | | | NA | NA | NA | 4.6E+1 | 6.6E+1 | NA | NA | NA | NA | NA | 4.6E+1 | ☐ | NA |
| 85-01-8 | Phenanthrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 129-00-0 | Pyrene ** | | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 100-42-5 | Styrene ** | | | NA | NA | NA | 1.9E+2 | 2.7E+2 | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 108-88-3 | Toluene* | | | NA | NA | NA | 1.6E+1 | 1.8E+2 | NA | NA | NA | NA | NA | 1.6E+1 | ☐ | NA |
| 1330-20-7 | Xylene (mixed isomers) ** | | | NA | NA | NA | 1.1E+1 | 6.9E+1 | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial Sanitario INHALACIÓN S9/COVs

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 230 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 3.70E+2 | NA | (cm) |
| $A_b$ | Foundation area | 5.48E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.98E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 3.50E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

# RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Sanitario INHALACIÓN S9/COVs | Date Completed: 17-jun-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 4.8E+0 | | 3.0E+1 | NA | NA | | 4.8E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 2.6E-2 | | 1.9E-1 | NA | NA | | 2.6E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | | >1.8E+1 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | >1.5E+1 | | >1.5E+1 | NA | NA | | >1.5E+1 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 7.9E-2 | | 5.8E-1 | NA | NA | | 7.9E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 1.5E+1 | | 9.8E+1 | NA | NA | | 1.5E+1 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 1.3E+3 | | 8.7E+3 | NA | NA | | 1.3E+3 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 2.7E-1 | | 1.7E+0 | NA | NA | | 2.7E-1 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 4.5E+0 | | 2.4E+1 | NA | NA | | 4.5E+0 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 7.3E+1 | | 3.6E+2 | NA | NA | | 7.3E+1 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.1E+4 | | >4.1E+4 | NA | NA | | >4.1E+4 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >2.9E+4 | | >2.9E+4 | NA | NA | | >2.9E+4 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >9.0E-1 | | >9.0E-1 | NA | NA | | >9.0E-1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 1.3E+2 | | >1.5E+2 | NA | NA | | 1.3E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | | NA | NA | NA | | 4.0E+0 | | 2.5E+1 | NA | NA | | 4.0E+0 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >1.5E+2 | | >1.5E+2 | NA | NA | | >1.5E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.2E+2 | | 8.0E+2 | NA | NA | | 1.2E+2 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 6.6E-1 | | 3.6E+0 | NA | NA | | 6.6E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.4E+2 | | 1.5E+3 | NA | NA | | 2.4E+2 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 9.1E+0 | | 6.2E+1 | NA | NA | | 9.1E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 5.9E+3 | | >6.2E+3 | NA | NA | | 5.9E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >6.0E-3 | | >6.0E-3 | NA | NA | | >6.0E-3 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 1.8E+1 | | >5.0E+1 | NA | NA | | 1.8E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >6.5E-1 | | >6.5E-1 | NA | NA | | >6.5E-1 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >1.4E+1 | | >1.4E+1 | NA | NA | | >1.4E+1 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4- | | NA | NA | NA | | >6.4E+0 | | >6.4E+0 | NA | NA | | >6.4E+0 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5- | | NA | NA | NA | | >5.2E+0 | | >5.2E+0 | NA | NA | | >5.2E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial Sanitario INHALACIÓN S9/COVs | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | (mg/L) | "■" if yes | |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >3.0E-1 | | >3.0E-1 | NA | NA | >3.0E-1 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 2.6E+1 | | 1.9E+2 | NA | NA | 2.6E+1 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 6.6E+0 | | 4.6E+1 | NA | NA | 6.6E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 2.1E+0 | | 1.4E+1 | NA | NA | 2.1E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 1.4E+0 | | 9.4E+0 | NA | NA | 1.4E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | >1.6E+1 | | >1.6E+1 | NA | NA | >1.6E+1 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 5.8E+0 | | >3.0E+1 | NA | NA | 5.8E+0 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | >1.8E+1 | | >1.8E+1 | NA | NA | >1.8E+1 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >3.7E+3 | | >3.7E+3 | NA | NA | >3.7E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >1.2E+3 | | >1.2E+3 | NA | NA | >1.2E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | >9.8E+2 | | >9.8E+2 | NA | NA | >9.8E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >3.0E+2 | | >3.0E+2 | NA | NA | >3.0E+2 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.0E+2 | | >1.0E+2 | NA | NA | >1.0E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >2.0E+0 | | >2.0E+0 | NA | NA | >2.0E+0 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 1.8E+2 | | >1.3E+3 | NA | NA | 1.8E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 1.4E+0 | | 7.7E+0 | NA | NA | 1.4E+0 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 9.5E-1 | | 6.9E+0 | NA | NA | 9.5E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Comercial Sanitario INHALACIÓN S9/COVs
Completed By: IDOM
Date Completed: 17-jun-yy
Job ID: 13506



### SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X | Soil Vol. to Indoor Air | X | Soil Volatilization to Outdoor Air | | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 cm) | (0 Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | | Construction Worker | Off-site 1 cm) | (0 Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | | Residential | | Residential | | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 108-86-1 | Bromobenzene* | | NA | NA | NA | | 3.8E+0 | | 6.9E+0 | | NA | NA | NA | NA | NA | 3.8E+0 | ☐ | NA |
| 75-27-4 | Bromodichloromethane ** | | NA | NA | NA | | 1.2E-2 | | 9.1E-1 | | NA | NA | NA | NA | NA | 1.2E-2 | ☐ | NA |
| 104-51-8 | Butylbenzene, n-* | | NA | NA | NA | | 2.3E+2 | | >3.3E+2 | | NA | NA | NA | NA | NA | 2.3E+2 | ☐ | NA |
| 135-98-8 | Butylbenzene, sec-* | | NA | NA | NA | | 1.8E+2 | | 2.5E+2 | | NA | NA | NA | NA | NA | 1.8E+2 | ☐ | NA |
| 98-06-6 | Butylbenzene, tert-* | | NA | NA | NA | | 1.2E+2 | | 1.9E+2 | | NA | NA | NA | NA | NA | 1.2E+2 | ☐ | NA |
| 56-23-5 | carbon tetrachloride (Tetrachl | | NA | NA | NA | | 3.1E-2 | | 1.1E+0 | | NA | NA | NA | NA | NA | 3.1E-2 | ☐ | NA |
| 108-90-7 | Chlorobenzene ** | | NA | NA | NA | | 9.4E+0 | | 3.4E+1 | | NA | NA | NA | NA | NA | 9.4E+0 | ☐ | NA |
| 75-00-3 | Chloroethane ** | | NA | NA | NA | | 8.9E+1 | | >5.7E+3 | | NA | NA | NA | NA | NA | 8.9E+1 | ☐ | NA |
| 67-66-3 | Chloroform* | | NA | NA | NA | | 7.1E-2 | | 7.0E-1 | | NA | NA | NA | NA | NA | 7.1E-2 | ☐ | NA |
| 74-87-3 | Chloromethane ** | | NA | NA | NA | | 8.0E-1 | | 6.2E+1 | | NA | NA | NA | NA | NA | 8.0E-1 | ☐ | NA |
| 95-57-8 | Chlorophenol, 2- ** | | NA | NA | NA | | 1.3E+2 | | 2.0E+2 | | NA | NA | NA | NA | NA | 1.3E+2 | ☐ | NA |
| 108-43-0 | Chlorophenol, 3- ** | | NA | NA | NA | | >4.9E+4 | | 8.7E+3 | | NA | NA | NA | NA | NA | 8.7E+3 | ☐ | NA |
| 106-48-9 | Chlorophenol, 4- ** | | NA | NA | NA | | >3.7E+4 | | 8.9E+3 | | NA | NA | NA | NA | NA | 8.9E+3 | ☐ | NA |
| 2921-88-2 | Chlorpyrifos ** | | NA | NA | NA | | >4.5E+1 | | >4.5E+1 | | NA | NA | NA | NA | NA | >4.5E+1 | ☐ | NA |
| 95-50-1 | Dichlorobenzene (1,2) (-o) ** | | NA | NA | NA | | 9.0E+2 | | 1.3E+3 | | NA | NA | NA | NA | NA | 9.0E+2 | ☐ | NA |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) ** | | NA | NA | NA | | 2.1E+1 | | 3.0E+1 | | NA | NA | NA | NA | NA | 2.1E+1 | ☐ | NA |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | | NA | NA | NA | | >9.3E+2 | | >9.3E+2 | | NA | NA | NA | NA | NA | >9.3E+2 | ☐ | NA |
| 75-34-3 | Dichloroethane, 1,1- ** | | NA | NA | NA | | 1.4E+1 | | 3.4E+2 | | NA | NA | NA | NA | NA | 1.4E+1 | ☐ | NA |
| 107-06-2 | Dichloroethane, 1,2- ** | | NA | NA | NA | | 1.7E-1 | | 6.2E-1 | | NA | NA | NA | NA | NA | 1.7E-1 | ☐ | NA |
| 156-59-2 | Dichloroethene, cis-1,2- ** | | NA | NA | NA | | 2.8E+1 | | 5.4E+2 | | NA | NA | NA | NA | NA | 2.8E+1 | ☐ | NA |
| 156-60-5 | Dichloroethene,1,2-trans- * * | | NA | NA | NA | | 1.3E+0 | | 3.9E+1 | | NA | NA | NA | NA | NA | 1.3E+0 | ☐ | NA |
| 105-67-9 | Dimethyl phenol, 2,4-* | | NA | NA | NA | | 3.9E+3 | | 2.3E+3 | | NA | NA | NA | NA | NA | 2.3E+3 | ☐ | NA |
| 118-74-1 | Hexachlorobenzene ** | | NA | NA | NA | | >1.7E+0 | | >1.7E+0 | | NA | NA | NA | NA | NA | >1.7E+0 | ☐ | NA |
| 67-72-1 | Hexachloroethane* | | NA | NA | NA | | 6.0E+1 | | 3.4E+2 | | NA | NA | NA | NA | NA | 6.0E+1 | ☐ | NA |
| 608-93-5 | Pentachlorobenzene* | | NA | NA | NA | | >2.1E+2 | | >2.1E+2 | | NA | NA | NA | NA | NA | >2.1E+2 | ☐ | NA |
| 87-86-5 | Penthachlorophenol* | | NA | NA | NA | | >5.7E+3 | | 2.9E+3 | | NA | NA | NA | NA | NA | 2.9E+3 | ☐ | NA |
| 634-66-2 | Tetrachlorobenzene, 1,2,3,4-* | | NA | NA | NA | | >2.6E+3 | | >2.6E+3 | | NA | NA | NA | NA | NA | >2.6E+3 | ☐ | NA |
| 634-90-2 | Tetrachlorobenzene, 1,2,3,5-* | | NA | NA | NA | | >3.3E+2 | | >3.3E+2 | | NA | NA | NA | NA | NA | >3.3E+2 | ☐ | NA |
| 95-94-3 | Tetrachlorobenzene, 1,2,4,5-* | | NA | NA | NA | | >4.8E+0 | | >4.8E+0 | | NA | NA | NA | NA | NA | >4.8E+0 | ☐ | NA |
| 127-18-4 | Tetrachloroethylene (perchlor | | NA | NA | NA | | 9.4E+0 | | 1.7E+2 | | NA | NA | NA | NA | NA | 9.4E+0 | ☐ | NA |
| 79-01-6 | Trichloroethylene (TCE)* | | NA | NA | NA | | 2.5E+0 | | 3.0E+1 | | NA | NA | NA | NA | NA | 2.5E+0 | ☐ | NA |
| 95-63-6 | Trimethylbenzene,1,2,4-* | | NA | NA | NA | | 5.2E+0 | | 7.5E+0 | | NA | NA | NA | NA | NA | 5.2E+0 | ☐ | NA |
| 108-67-8 | Trimethylbenzene,1,3,5- ** | | NA | NA | NA | | 3.3E+0 | | 4.8E+0 | | NA | NA | NA | NA | NA | 3.3E+0 | ☐ | NA |
| 87-61-6 | Trichlorobenzene, 1,2,3-* | | NA | NA | NA | | 1.4E+3 | | >1.5E+3 | | NA | NA | NA | NA | NA | 1.4E+3 | ☐ | NA |
| 120-82-1 | Trichlorobenzene, 1,2,4-* | | NA | NA | NA | | 1.9E+2 | | 2.6E+2 | | NA | NA | NA | NA | NA | 1.9E+2 | ☐ | NA |
| 108-70-3 | Trichlorobenzene, 1,3,5-* | | NA | NA | NA | | 2.4E+2 | | 3.5E+2 | | NA | NA | NA | NA | NA | 2.4E+2 | ☐ | NA |
| 933-78-8 | Trichlorophenol,2,3,5-* | | NA | NA | NA | | >9.0E+3 | | >9.0E+3 | | NA | NA | NA | NA | NA | >9.0E+3 | ☐ | NA |
| 95-95-4 | Trichlorophenol,2,4,5-* | | NA | NA | NA | | >3.6E+3 | | >3.6E+3 | | NA | NA | NA | NA | NA | >3.6E+3 | ☐ | NA |
| 88-06-2 | Triclorophenol,2,4,6-* | | NA | NA | NA | | 8.6E+2 | | 7.7E+2 | | NA | NA | NA | NA | NA | 7.7E+2 | ☐ | NA |
| 4901-51-3 | Tetrachlorophenol,2,3,4,5-* | | NA | NA | NA | | >1.4E+3 | | >1.4E+3 | | NA | NA | NA | NA | NA | >1.4E+3 | ☐ | NA |
| 58-90-2 | Tetrachlorophenol,2,3,4,6-* | | NA | NA | NA | | >1.1E+2 | | >1.1E+2 | | NA | NA | NA | NA | NA | >1.1E+2 | ☐ | NA |
| 935-95-5 | Tetrachlorophenol,2,3,5,6-* | | NA | NA | NA | | >6.6E-1 | | >6.6E-1 | | NA | NA | NA | NA | NA | >6.6E-1 | ☐ | NA |
| 71-55-6 | Trichloroethane, 1,1,1- ** | | NA | NA | NA | | 1.1E+2 | | 1.5E+3 | | NA | NA | NA | NA | NA | 1.1E+2 | ☐ | NA |
| 79-00-5 | Trichloroethane, 1,1,2- ** | | NA | NA | NA | | 4.8E-2 | | 1.0E+0 | | NA | NA | NA | NA | NA | 4.8E-2 | ☐ | NA |
| 75-01-4 | Vinyl chloride ** | | NA | NA | NA | | 2.1E-1 | | 1.6E+1 | | NA | NA | NA | NA | NA | 2.1E-1 | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Sanitario INHALACIÓN/Sector 9/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 250 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 300 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | None | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | Residential | None | None |
| Volatilization from Groundwater | Residential | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | Residential | NA | NA |
| Volatilization from Groundwater | Residential | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | NA | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | 0 | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | Surface & subsurface models |
| Indoor air volatilization model | Johnson & Ettinger model |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | 5.8E+8 | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | 5.0E+3 | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | 1.0E+2 | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | 2.0E+2 | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | 1.0E+2 | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | 9.0E+0 | | | (cm) |
| $h_v$ | Vadose zone thickness | 1.6E+3 | | | (cm) |
| $\rho_s$ | Soil bulk density | 1.7E+0 | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | 1.0E-2 | | | (-) |
| $\theta_T$ | Soil total porosity | 4.1E-1 | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | 8.6E+1 | | | (cm/d) |
| $k_v$ | Vapor permeability | 1.0E-9 | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | 1.6E+3 | | | (cm) |
| $L_s$ | Depth to top of affected soils | 3.0E+1 | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | 3.4E+3 | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | 3.4E+3 | | | (cm) |
| pH | Soil/groundwater pH | 6.8E+0 | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | 0.369 | 0.12 | 0 | (-) |
| $\theta_a$ | Volumetric air content | 0.041 | 0.29 | 0.26 | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | 3.70E+2 | NA | (cm) |
| $A_b$ | Foundation area | 5.48E+7 | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | 2.98E+4 | NA | (cm) |
| ER | Building air exchange rate | 1.40E-4 | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | 3.00E+1 | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | 3.00E+1 | NA | (cm) |
| $\eta$ | Foundation crack fraction | 1.00E-2 | NA | (-) |
| dP | Indoor/outdoor differential pressure | 4.00E+1 | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | 3.50E+1 | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506
Site Location: Sanitario INHALACIÓN/Sector 9/varias familias
Date Completed: 17-jun-yy


### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0
Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| CAS No. | Name | (mg/L) | None | None | None | | Residential | | Residential | None | None | | (mg/L) | "■" if yes | left |
| 1336-36-3 | Polychlorinated biphenyls (PC | | NA | NA | NA | | 2.9E-1 | | >7.0E-1 | NA | NA | | 2.9E-1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | | 3.6E+0 | | >7.5E+0 | NA | NA | | 3.6E+0 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | | >3.4E-1 | | >3.4E-1 | NA | NA | | >3.4E-1 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | | >1.1E+3 | | >1.1E+3 | NA | NA | | >1.1E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | | >4.2E+3 | | >4.2E+3 | NA | NA | | >4.2E+3 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | | >1.1E+1 | | >1.1E+1 | NA | NA | | >1.1E+1 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | | >2.0E-1 | | >2.0E-1 | NA | NA | | >2.0E-1 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | | >2.5E-1 | | >2.5E-1 | NA | NA | | >2.5E-1 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | | 1.1E+4 | | >2.6E+4 | NA | NA | | 1.1E+4 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | | 2.2E+3 | | 9.4E+3 | NA | NA | | 2.2E+3 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | | 1.1E+4 | | >3.5E+4 | NA | NA | | 1.1E+4 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | | 1.1E+3 | | 4.0E+3 | NA | NA | | 1.1E+3 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | | >6.0E-2 | | >6.0E-2 | NA | NA | | >6.0E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | | 1.9E-1 | | 1.4E+0 | NA | NA | | 1.9E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | | >4.3E-1 | | >4.3E-1 | NA | NA | | >4.3E-1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | | >3.4E-2 | | >3.4E-2 | NA | NA | | >3.4E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | | >7.6E-4 | | >7.6E-4 | NA | NA | | >7.6E-4 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | | #N/A | | #N/A | NA | NA | | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | | >1.7E-5 | | >1.7E-5 | NA | NA | | >1.7E-5 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | | NC | | NC | NA | NA | | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | | 2.0E+1 | | >1.3E+2 | NA | NA | | 2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | | 1.8E+1 | | >6.5E+1 | NA | NA | | 1.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | | >2.5E+1 | | >2.5E+1 | NA | NA | | >2.5E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | | >5.8E+0 | | >5.8E+0 | NA | NA | | >5.8E+0 | ☐ | NA |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Sanitario INHALACIÓN/Sector 9/varias familias | Date Completed: 17-jun-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | | Groundwater Ingestion / Discharge to Surface Water | | | X | GW Vol. to Indoor Air | X | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | "■" if yes | Only if "yes" left |
| **CAS No.** | **Name** | (mg/L) | None | None | None | | Residential | | Residential | None | None | (mg/L) | | |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | | 6.9E+0 | | >9.3E+0 | NA | NA | 6.9E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | | >1.3E+0 | | >1.3E+0 | NA | NA | >1.3E+0 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | | NC | | NC | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

## RBCA SITE ASSESSMENT

Site Name: Can Planas
Site Location: Sanitario INHALACIÓN/Sector 9/varias familias

Completed By: IDOM
Date Completed: 17-jun-yy

Job ID: 13506



### SOIL (30 - 3400 cm) SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | Soil Leaching to Groundwater Ingestion / Discharge to Surface Water | | | X Soil Vol. to Indoor Air | X Soil Volatilization to Outdoor Air | | | | Surface Soil Inhalation, Ingestion,Dermal Contact | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONSTITUENTS OF CONCERN | | Representative Concentration | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | | | Only if "yes" left |
| CAS No. | Name | (mg/kg) | None | None | None | Residential | Residential | Construction Worker | None | None | None | Construction Worker | (mg/kg) | "■" if yes | |
| 1336-36-3 | Polychlorinated biphenyls (P | | NA | NA | NA | 4.0E+2 | 8.8E+1 | NA | NA | NA | NA | NA | 8.8E+1 | ☐ | NA |
| 117-81-7 | Phthalate, bis(2-Ethylhexyl) | | NA | NA | NA | >5.6E+2 | >5.6E+2 | NA | NA | NA | NA | NA | >5.6E+2 | ☐ | NA |
| 92-52-4 | Biphenyl, 1,1- ** | | NA | NA | NA | 8.4E+1 | 9.8E+1 | NA | NA | NA | NA | NA | 8.4E+1 | ☐ | NA |
| 117-81-7 | Bis (2-ethyl-hexyl) phthalate* | | NA | NA | NA | >5.4E+4 | >5.4E+4 | NA | NA | NA | NA | NA | >5.4E+4 | ☐ | NA |
| 84-66-2 | Diethyl phthalate* | | NA | NA | NA | >1.7E+3 | >1.7E+3 | NA | NA | NA | NA | NA | >1.7E+3 | ☐ | NA |
| 131-11-3 | Dimethylphthalate* | | NA | NA | NA | 1.3E+3 | 6.7E+2 | NA | NA | NA | NA | NA | 6.7E+2 | ☐ | NA |
| 84-74-2 | Di-n-butyl phthalate (dibutyl p | | NA | NA | NA | >3.8E+3 | >3.8E+3 | NA | NA | NA | NA | NA | >3.8E+3 | ☐ | NA |
| 132-64-9 | Dibenzofuran* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 60-57-1 | Dieldrin ** | | NA | NA | NA | >6.9E+1 | 6.8E+0 | NA | NA | NA | NA | NA | 6.8E+0 | ☐ | NA |
| 72-20-8 | Endrin* | | NA | NA | NA | >2.3E+3 | >2.3E+3 | NA | NA | NA | NA | NA | >2.3E+3 | ☐ | NA |
| 108-39-4 | Cresol (-m) ** | | NA | NA | NA | 6.4E+3 | 2.0E+3 | NA | NA | NA | NA | NA | 2.0E+3 | ☐ | NA |
| 95-48-7 | Cresol (-o) ** | | NA | NA | NA | 1.1E+3 | 9.5E+2 | NA | NA | NA | NA | NA | 9.5E+2 | ☐ | NA |
| 106-44-5 | Cresol (-p)* | | NA | NA | NA | 6.0E+3 | 1.9E+3 | NA | NA | NA | NA | NA | 1.9E+3 | ☐ | NA |
| 50-00-0 | Formaldehyde ** | | NA | NA | NA | 6.5E+1 | 6.1E+1 | NA | NA | NA | NA | NA | 6.1E+1 | ☐ | NA |
| 7439-97-6 | Mercury ** | | NA | NA | NA | 1.1E-2 | >1.1E-2 | NA | NA | NA | NA | NA | 1.1E-2 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 06-08* | | NA | NA | NA | 1.7E+0 | 1.3E+2 | NA | NA | NA | NA | NA | 1.7E+0 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 08-10* | | NA | NA | NA | 3.9E+1 | >1.4E+2 | NA | NA | NA | NA | NA | 3.9E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-12* | | NA | NA | NA | >8.6E+1 | >8.6E+1 | NA | NA | NA | NA | NA | >8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-16* | | NA | NA | NA | >3.8E+1 | >3.8E+1 | NA | NA | NA | NA | NA | >3.8E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 10-16* | | NA | NA | NA | #N/A | #N/A | NA | NA | NA | NA | NA | #N/A | ☐ | NA |
| 0-00-0 | TPH Aliphatic 12-22* | | NA | NA | NA | >2.0E+1 | >2.0E+1 | NA | NA | NA | NA | NA | >2.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aliphatic 16-22* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatic 22-30 ** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aliphatics 30-40** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 07-08* | | NA | NA | NA | 5.0E+1 | 2.7E+2 | NA | NA | NA | NA | NA | 5.0E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 08-10* | | NA | NA | NA | 6.1E+1 | 1.4E+2 | NA | NA | NA | NA | NA | 6.1E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-12* | | NA | NA | NA | 3.4E+2 | 4.7E+2 | NA | NA | NA | NA | NA | 3.4E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-16* | | NA | NA | NA | >2.9E+2 | >2.9E+2 | NA | NA | NA | NA | NA | >2.9E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 10-16** | | NA | NA | NA | 8.6E+1 | 1.2E+2 | NA | NA | NA | NA | NA | 8.6E+1 | ☐ | NA |
| 0-00-0 | TPH Aromatic 12-22* | | NA | NA | NA | >1.3E+2 | >1.3E+2 | NA | NA | NA | NA | NA | >1.3E+2 | ☐ | NA |
| 0-00-0 | TPH Aromatic 16-22** | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 22-30* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |
| 0-00-0 | TPH Aromatic 30-40* | | NA | NA | NA | NC | NC | NA | NA | NA | NA | NA | NC | ☐ | NA |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial/pozo riego/Granja Rosita

Completed By: IDOM
Date Completed: 1-oct-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 350 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | Commercial | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | None | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | None | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | 0 | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | NA | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | NA |
| Indoor air volatilization model | NA |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | NA | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | NA | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | NA | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | NA | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | NA | | | (cm) |
| $h_v$ | Vadose zone thickness | NA | | | (cm) |
| $\rho_s$ | Soil bulk density | NA | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | NA | | | (-) |
| $\theta_T$ | Soil total porosity | NA | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | NA | | | (cm/d) |
| $k_v$ | Vapor permeability | NA | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | NA | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | NA | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | NA | NA | NA | (-) |
| $\theta_a$ | Volumetric air content | NA | NA | NA | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | NA | (cm) |
| $A_b$ | Foundation area | NA | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | NA | (cm) |
| ER | Building air exchange rate | NA | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | NA | (cm) |
| $\eta$ | Foundation crack fraction | NA | NA | (-) |
| dP | Indoor/outdoor differential pressure | NA | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

**RBCA SITE ASSESSMENT** | **Baseline Risk Summary-All Pathways**

Site Name: Can Planas
Site Location: Comercial/pozo riego/Granja Rosita
Completed By: IDOM
Date Completed: 1-oct-yy



## TIER 2 BASELINE RISK SUMMARY TABLE

| | BASELINE CARCINOGENIC RISK | | | | | BASELINE TOXIC EFFECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Individual COC Risk | | Cumulative COC Risk | | Risk | Hazard Quotient | | Hazard Index | | Toxicity |
| EXPOSURE PATHWAY | Maximum Value | Target Risk | Total Value | Target Risk | Limit(s) Exceeded? | Maximum Value | Applicable Limit | Total Value | Applicable Limit | Limit(s) Exceeded? |
| ***OUTDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***INDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***SOIL EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***GROUNDWATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | 5.5E-13 | 1.0E-5 | 5.5E-13 | 1.0E-5 | ☐ | 2.6E-12 | 1.0E+0 | 2.6E-12 | 1.0E+0 | ☐ |
| ***SURFACE WATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| **CRITICAL EXPOSURE PATHWAY (Maximum Values From Complete Pathways)** | | | | | | | | | | |
| | ***5.5E-13*** | ***1.0E-5*** | ***5.5E-13*** | ***1.0E-5*** | ☐ | ***2.6E-12*** | ***1.0E+0*** | ***2.6E-12*** | ***1.0E+0*** | ☐ |
| | ***Groundwater*** | | ***Groundwater*** | | | ***Groundwater*** | | ***Groundwater*** | | |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial/pozo riego/Granja Rosita
Date Completed: 1-oct-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| | | | X | Groundwater Ingestion | | | GW Vol. to Indoor Air | | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONSTITUENTS OF CONCERN** | | **Representative Concentration** | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | | Commercial | None | None | None | | None | None | None | (mg/L) | "■" if yes | left |
| 156-59-2 | Dichloroethene, cis-1,2- ** | 2.9E-12 | | 1.1E+0 | NA | NA | NA | | NA | NA | NA | 1.1E+0 | ☐ | <1 |
| 75-01-4 | Vinyl chloride ** | 1.7E-10 | | 3.1E-3 | NA | NA | NA | | NA | NA | NA | 3.1E-3 | ☐ | <1 |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial/pozo riego/Polígono Industrial

Completed By: IDOM
Date Completed: 1-oct-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 350 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | Commercial | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | None | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | None | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | 0 | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | NA | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | NA |
| Indoor air volatilization model | NA |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | NA | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | NA | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | NA | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | NA | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | NA | | | (cm) |
| $h_v$ | Vadose zone thickness | NA | | | (cm) |
| $\rho_s$ | Soil bulk density | NA | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | NA | | | (-) |
| $\theta_T$ | Soil total porosity | NA | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | NA | | | (cm/d) |
| $k_v$ | Vapor permeability | NA | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | NA | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | NA | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | NA | NA | NA | (-) |
| $\theta_a$ | Volumetric air content | NA | NA | NA | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | NA | (cm) |
| $A_b$ | Foundation area | NA | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | NA | (cm) |
| ER | Building air exchange rate | NA | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | NA | (cm) |
| $\eta$ | Foundation crack fraction | NA | NA | (-) |
| dP | Indoor/outdoor differential pressure | NA | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

**RBCA SITE ASSESSMENT** | **Baseline Risk Summary-All Pathways**

Site Name: Can Planas
Site Location: Comercial/pozo riego/Polígono Industrial
Completed By: IDOM
Date Completed: 1-oct-yy



## TIER 2 BASELINE RISK SUMMARY TABLE

| | BASELINE CARCINOGENIC RISK | | | | | BASELINE TOXIC EFFECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Individual COC Risk | | Cumulative COC Risk | | Risk | Hazard Quotient | | Hazard Index | | Toxicity |
| EXPOSURE PATHWAY | Maximum Value | Target Risk | Total Value | Target Risk | Limit(s) Exceeded? | Maximum Value | Applicable Limit | Total Value | Applicable Limit | Limit(s) Exceeded? |
| ***OUTDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***INDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***SOIL EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***GROUNDWATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NC | 1.0E-5 | NC | 1.0E-5 | ☐ | 1.3E-11 | 1.0E+0 | 1.4E-11 | 1.0E+0 | ☐ |
| ***SURFACE WATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| **CRITICAL EXPOSURE PATHWAY (Maximum Values From Complete Pathways)** | | | | | | | | | | |
| | ***NC*** | ***1.0E-5*** | ***NC*** | ***1.0E-5*** | ☐ | ***1.3E-11*** | ***1.0E+0*** | ***1.4E-11*** | ***1.0E+0*** | ☐ |
| | ***Groundwater*** | | ***Groundwater*** | | | ***Groundwater*** | | ***Groundwater*** | | |

# RBCA SITE ASSESSMENT

Site Name: Can Planas
Completed By: IDOM
Job ID: 13506

Site Location: Comercial/pozo riego/Polígono Industrial
Date Completed: 1-oct-yy



## GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | X Groundwater Ingestion | | | GW Vol. to Indoor Air | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | Commercial | None | None | None | None | None | None | (mg/L) | "■" if yes | left |
| 127-18-4 | Tetrachloroethylene (perchlor | 2.0E-11 | 1.6E+0 | NA | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | <1 |
| 75-34-3 | Dichloroethane, 1,1- | 2.9E-12 | 3.3E+0 | NA | NA | NA | NA | NA | NA | 3.3E+0 | ☐ | <1 |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

# RBCA SITE ASSESSMENT

## Input Parameter Summary

Site Name: Can Planas
Site Location: Comercial/pozo riego/Vivero

Completed By: IDOM
Date Completed: 1-oct-yy

Job ID: 13506



| Exposure Parameters | | Residential | | | Commercial/Industrial | |
|---|---|---|---|---|---|---|
| | | Adult | (1-6yrs) | (1-16 yrs) | Chronic | Construc. |
| $AT_c$ | Averaging time for carcinogens (yr) | 70 | | | | |
| $AT_n$ | Averaging time for non-carcinogens (yr) | 30 | | | 25 | 1 |
| BW | Body weight (kg) | 70 | 15 | 35 | 70 | |
| ED | Exposure duration (yr) | 30 | 6 | 16 | 25 | 1 |
| $\tau$ | Averaging time for vapor flux (yr) | 30 | | | 25 | 1 |
| EF | Exposure frequency (days/yr) | 350 | | | 230 | 180 |
| $EF_D$ | Exposure frequency for dermal exposure | 350 | | | 250 | |
| $IR_w$ | Ingestion rate of water (L/day) | 2 | | | 1 | |
| $IR_s$ | Ingestion rate of soil (mg/day) | 100 | 200 | | 50 | 100 |
| SA | Skin surface area (dermal) (cm^2) | 5800 | | 2023 | 5800 | 5800 |
| M | Soil to skin adherence factor | 1 | | | | |
| $ET_{swim}$ | Swimming exposure time (hr/event) | 3 | | | | |
| $EV_{swim}$ | Swimming event frequency (events/yr) | 12 | 12 | 12 | | |
| $IR_{swim}$ | Water ingestion while swimming (L/hr) | 0.05 | 0.5 | | | |
| $SA_{swim}$ | Skin surface area for swimming (cm^2) | 23000 | | 8100 | | |
| $IR_{fish}$ | Ingestion rate of fish (kg/yr) | 0.025 | | | | |
| $FI_{fish}$ | Contaminated fish fraction (unitless) | 1 | | | | |

| Complete Exposure Pathways and Receptors | On-site | Off-site 1 | Off-site 2 |
|---|---|---|---|
| **Groundwater:** | | | |
| Groundwater Ingestion | Commercial | None | None |
| Soil Leaching to Groundwater Ingestion | None | None | None |
| **Applicable Surface Water Exposure Routes:** | | | |
| Swimming | | | NA |
| Fish Consumption | | | NA |
| Aquatic Life Protection | | | NA |
| **Soil:** | | | |
| Direct Ingestion and Dermal Contact | None | | |
| **Outdoor Air:** | | | |
| Particulates from Surface Soils | None | None | None |
| Volatilization from Soils | None | None | None |
| Volatilization from Groundwater | None | None | None |
| **Indoor Air:** | | | |
| Volatilization from Subsurface Soils | None | NA | NA |
| Volatilization from Groundwater | None | NA | NA |

| Receptor Distance from Source Media | On-site | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|
| Groundwater receptor | 0 | NA | NA | (cm) |
| Soil leaching to groundwater receptor | NA | NA | NA | (cm) |
| Outdoor air inhalation receptor | NA | NA | NA | (cm) |

| Target Health Risk Values | | Individual | Cumulative |
|---|---|---|---|
| $TR_{ab}$ | Target Risk (class A&B carcinogens) | 1.0E-5 | 1.0E-5 |
| $TR_c$ | Target Risk (class C carcinogens) | 1.0E-5 | |
| THQ | Target Hazard Quotient (non-carcinogenic risk) | 1.0E+0 | 1.0E+0 |

| Modeling Options | |
|---|---|
| RBCA tier | Tier 2 |
| Outdoor air volatilization model | NA |
| Indoor air volatilization model | NA |
| Soil leaching model | NA |
| Use soil attenuation model (SAM) for leachate? | NA |
| Air dilution factor | NA |
| Groundwater dilution-attenuation factor | NA |

NOTE: NA = Not applicable

| Surface Parameters | | General | Construction | (Units) |
|---|---|---|---|---|
| A | Source zone area | NA | NA | (cm^2) |
| W | Length of source-zone area parallel to wind | NA | NA | (cm) |
| $W_{gw}$ | Length of source-zone area parallel to GW flow | NA | | (cm) |
| $U_{air}$ | Ambient air velocity in mixing zone | NA | | (cm/s) |
| $\delta_{air}$ | Air mixing zone height | NA | | (cm) |
| $P_a$ | Areal particulate emission rate | NA | | (g/cm^2/s) |
| $L_{ss}$ | Thickness of affected surface soils | NA | | (cm) |

| Surface Soil Column Parameters | | Value | | | (Units) |
|---|---|---|---|---|---|
| $h_{cap}$ | Capillary zone thickness | NA | | | (cm) |
| $h_v$ | Vadose zone thickness | NA | | | (cm) |
| $\rho_s$ | Soil bulk density | NA | | | (g/cm^3) |
| $f_{oc}$ | Fraction organic carbon | NA | | | (-) |
| $\theta_T$ | Soil total porosity | NA | | | (-) |
| $K_{vs}$ | Vertical hydraulic conductivity | NA | | | (cm/d) |
| $k_v$ | Vapor permeability | NA | | | (cm^2) |
| $L_{gw}$ | Depth to groundwater | NA | | | (cm) |
| $L_s$ | Depth to top of affected soils | NA | | | (cm) |
| $L_{base}$ | Depth to base of affected soils | NA | | | (cm) |
| $L_{subs}$ | Thickness of affected soils | NA | | | (cm) |
| pH | Soil/groundwater pH | NA | | | (-) |
| | | capillary | vadose | foundation | |
| $\theta_w$ | Volumetric water content | NA | NA | NA | (-) |
| $\theta_a$ | Volumetric air content | NA | NA | NA | (-) |

| Building Parameters | | Residential | Commercial | (Units) |
|---|---|---|---|---|
| $L_b$ | Building volume/area ratio | NA | NA | (cm) |
| $A_b$ | Foundation area | NA | NA | (cm^2) |
| $X_{crk}$ | Foundation perimeter | NA | NA | (cm) |
| ER | Building air exchange rate | NA | NA | (1/s) |
| $L_{crk}$ | Foundation thickness | NA | NA | (cm) |
| $Z_{crk}$ | Depth to bottom of foundation slab | NA | NA | (cm) |
| $\eta$ | Foundation crack fraction | NA | NA | (-) |
| dP | Indoor/outdoor differential pressure | NA | NA | (g/cm/s^2) |
| $Q_s$ | Convective air flow through slab | NA | NA | (cm^3/s) |

| Groundwater Parameters | | Value | (Units) |
|---|---|---|---|
| $\delta_{gw}$ | Groundwater mixing zone depth | NA | (cm) |
| $I_f$ | Net groundwater infiltration rate | NA | (cm/yr) |
| $U_{gw}$ | Groundwater Darcy velocity | NA | (cm/d) |
| $V_{gw}$ | Groundwater seepage velocity | NA | (cm/d) |
| $K_s$ | Saturated hydraulic conductivity | NA | (cm/d) |
| i | Groundwater gradient | NA | (-) |
| $S_w$ | Width of groundwater source zone | NA | (cm) |
| $S_d$ | Depth of groundwater source zone | NA | (cm) |
| $\theta_{eff}$ | Effective porosity in water-bearing unit | NA | (-) |
| $f_{oc\text{-}sat}$ | Fraction organic carbon in water-bearing unit | NA | (-) |
| $pH_{sat}$ | Groundwater pH | NA | (-) |
| | Biodegradation considered? | NA | |

| Transport Parameters | | Off-site 1 | Off-site 2 | Off-site 1 | Off-site 2 | (Units) |
|---|---|---|---|---|---|---|
| **Lateral Groundwater Transport** | | Groundwater Ingestion | | Soil Leaching to GW | | |
| $\alpha_x$ | Longitudinal dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_y$ | Transverse dispersivity | NA | NA | NA | NA | (cm) |
| $\alpha_z$ | Vertical dispersivity | NA | NA | NA | NA | (cm) |
| **Lateral Outdoor Air Transport** | | Soil to Outdoor Air Inhal. | | GW to Outdoor Air Inhal. | | |
| $\sigma_y$ | Transverse dispersion coefficient | NA | NA | NA | NA | (cm) |
| $\sigma_z$ | Vertical dispersion coefficient | NA | NA | NA | NA | (cm) |
| ADF | Air dispersion factor | NA | NA | NA | NA | (-) |

| Surface Water Parameters | | Off-site 2 | (Units) |
|---|---|---|---|
| $Q_{sw}$ | Surface water flowrate | NA | (cm^3/s) |
| $W_{pi}$ | Width of GW plume at SW discharge | NA | (cm) |
| $\delta_{pi}$ | Thickness of GW plume at SW discharge | NA | (cm) |
| $DF_{sw}$ | Groundwater-to-surface water dilution factor | NA | (-) |

**RBCA SITE ASSESSMENT** | **Baseline Risk Summary-All Pathways**

Site Name: Can Planas
Site Location: Comercial/pozo riego/Vivero
Completed By: IDOM
Date Completed: 1-oct-yy



## TIER 2 BASELINE RISK SUMMARY TABLE

| EXPOSURE PATHWAY | BASELINE CARCINOGENIC RISK | | | | | BASELINE TOXIC EFFECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Individual COC Risk | | Cumulative COC Risk | | Risk Limit(s) Exceeded? | Hazard Quotient | | Hazard Index | | Toxicity Limit(s) Exceeded? |
| | Maximum Value | Target Risk | Total Value | Target Risk | | Maximum Value | Applicable Limit | Total Value | Applicable Limit | |
| ***OUTDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***INDOOR AIR EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***SOIL EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| ***GROUNDWATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | 1.6E-11 | 1.0E-5 | 1.8E-11 | 1.0E-5 | ☐ | 5.1E-8 | 1.0E+0 | 1.1E-7 | 1.0E+0 | ☐ |
| ***SURFACE WATER EXPOSURE PATHWAYS*** | | | | | | | | | | |
| **Complete:** | NA | NA | NA | NA | ☐ | NA | NA | NA | NA | ☐ |
| **CRITICAL EXPOSURE PATHWAY (Maximum Values From Complete Pathways)** | | | | | | | | | | |
| | ***1.6E-11*** | ***1.0E-5*** | ***1.8E-11*** | ***1.0E-5*** | ☐ | ***5.1E-8*** | ***1.0E+0*** | ***1.1E-7*** | ***1.0E+0*** | ☐ |
| | ***Groundwater*** | | ***Groundwater*** | | | ***Groundwater*** | | ***Groundwater*** | | |

## RBCA SITE ASSESSMENT

Site Name: Can Planas | Completed By: IDOM | Job ID: 13506

Site Location: Comercial/pozo riego/Vivero | Date Completed: 1-oct-yy



### GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

**SSTL Results For Complete Exposure Pathways ("X" if Complete)**

| CONSTITUENTS OF CONCERN | | Representative Concentration | X Groundwater Ingestion | | | GW Vol. to Indoor Air | Groundwater Volatilization to Outdoor Air | | | Applicable SSTL | SSTL Exceeded ? | Required CRF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | On-site (0 cm) | On-site (0 cm) | Off-site 1 (0 cm) | Off-site 2 (0 cm) | | | Only if "yes" |
| **CAS No.** | **Name** | (mg/L) | Commercial | None | None | None | None | None | None | (mg/L) | "■" if yes | left |
| 7440-50-8 | Copper ** | 3.8E-11 | 7.3E+0 | NA | NA | NA | NA | NA | NA | 7.3E+0 | ☐ | <1 |
| 71-43-2 | Benzene ** | 5.7E-11 | 1.0E-1 | NA | NA | NA | NA | NA | NA | 1.0E-1 | ☐ | <1 |
| 127-18-4 | Tetrachloroethylene (perchlor | 1.0E-10 | 1.6E+0 | NA | NA | NA | NA | NA | NA | 1.6E+0 | ☐ | <1 |
| 75-01-4 | Vinyl chloride ** | 5.0E-9 | 3.1E-3 | NA | NA | NA | NA | NA | NA | 3.1E-3 | ☐ | <1 |
| 75-34-3 | Dichloroethane, 1,1- ** | 5.0E-9 | 1.1E+1 | NA | NA | NA | NA | NA | NA | 1.1E+1 | ☐ | <1 |
| 156-59-2 | Dichloroethene, cis-1,2- ** | 5.0E-10 | 1.1E+0 | NA | NA | NA | NA | NA | NA | 1.1E+0 | ☐ | <1 |
| 156-60-5 | Dichloroethene,1,2-trans- * * | 1.0E-11 | 1.9E+0 | NA | NA | NA | NA | NA | NA | 1.9E+0 | ☐ | <1 |
| 75-09-2 | Methylene chloride* | 1.0E-7 | 4.1E-1 | NA | NA | NA | NA | NA | NA | 4.1E-1 | ☐ | <1 |
| 74-83-9 | Bromomethane* | 8.0E-9 | 1.6E-1 | NA | NA | NA | NA | NA | NA | 1.6E-1 | ☐ | <1 |
| 108-90-7 | Chlorobenzene ** | 1.0E-9 | 9.6E+0 | NA | NA | NA | NA | NA | NA | 9.6E+0 | ☐ | <1 |
| 541-73-1 | Dichlorobenzene, (1,3) (-m) * | 1.2E-9 | 3.3E-1 | NA | NA | NA | NA | NA | NA | 3.3E-1 | ☐ | <1 |
| 106-46-7 | Dichlorobenzene, (1,4) (-p) ** | 1.0E-11 | 1.2E+1 | NA | NA | NA | NA | NA | NA | 1.2E+1 | ☐ | <1 |
| 120-83-2 | Dichlorophenol,2,4-* | 7.0E-9 | 3.3E-1 | NA | NA | NA | NA | NA | NA | 3.3E-1 | ☐ | <1 |
| 583-78-8 | Dichlorophenol, 2,5-* | 7.0E-9 | 3.3E-1 | NA | NA | NA | NA | NA | NA | 3.3E-1 | ☐ | <1 |

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

Title:
CP Res-adult CD BTEX
06/11/08  20:39

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
- Benzene
- Ethyl benzene
- Toluene
- Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 100. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |
| Soil Bioavailability (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Benzene | 0.10 |
| Ethyl benzene | 0.10 |
| Toluene | 0.10 |
| Xylenes | 0.10 |
| Soil Bioavailability (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |

MEDIA CONCENTRATIONS
---
Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Benzene | 3.08E+02 |
| Ethyl benzene | 3.84E+04 |
| Toluene | 8.83E+04 |
| Xylenes | 7.09E+04 |

SLOPE FACTORS AND REFERENCE DOSES

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Benzene | 3.00E-02 |
| Ethyl benzene | ND |
| Toluene | ND |
| Xylenes | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Benzene | ND |
| Ethyl benzene | 9.70E-02 |
| Toluene | 0.22 |
| Xylenes | 0.18 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Benzene | 3.00E-02 |
| Ethyl benzene | ND |
| Toluene | ND |
| Xylenes | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Benzene | ND |
| Ethyl benzene | 9.70E-02 |
| Toluene | 0.22 |
| Xylenes | 0.18 |

SUMMARY OF RESULTS

INGESTION OF SOIL

Daily Doses and Risk for : Benzene

| | |
|---|---|
| CADD (mg/kg-day) | 3.62E-04 |
| LADD (mg/kg-day) | 1.55E-04 |
| Cancer Risk (-) | 4.650E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Ethyl benzene

| | |
|---|---|
| CADD (mg/kg-day) | 4.51E-02 |
| LADD (mg/kg-day) | 1.93E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 4.648E-01 |

Daily Doses and Risk for : Toluene

| | |
|---|---|
| CADD (mg/kg-day) | 1.04E-01 |
| LADD (mg/kg-day) | 4.44E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 4.649E-01 |

Daily Doses and Risk for : Xylenes

| | |
|---|---|
| CADD (mg/kg-day) | 8.32E-02 |
| LADD (mg/kg-day) | 3.57E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 4.651E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Benzene

| | |
|---|---|
| CADD (mg/kg-day) | 4.16E-04 |
| LADD (mg/kg-day) | 1.78E-04 |
| Cancer Risk (-) | 5.347E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Ethyl benzene

| | |
|---|---|
| CADD (mg/kg-day) | 5.19E-02 |
| LADD (mg/kg-day) | 2.22E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.345E-01 |

Daily Doses and Risk for : Toluene

| | |
|---|---|
| CADD (mg/kg-day) | 1.19E-01 |
| LADD (mg/kg-day) | 5.11E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.347E-01 |

Daily Doses and Risk for : Xylenes

| | |
|---|---|
| CADD (mg/kg-day) | 9.57E-02 |
| LADD (mg/kg-day) | 4.10E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.348E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Benzene | 3.1E+02 |
| Ethyl benzene | 3.8E+04 |
| Toluene | 8.8E+04 |
| Xylenes | 7.1E+04 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD Clbencenos
06/11/08 20:48

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Dichlorobenzene, 1,2-
Dichlorobenzene, 1,3-
Dichlorobenzene, 1,4-
Hexachlorobenzene
Pentachlorobenzene
Tetrachlorobenzene, 1,2,3,4-
Tetrachlorobenzene, 1,2,3,5-
Tetrachlorobenzene, 1,2,4,5-
Trichlorobenzene, 1,2,3-
Trichlorobenzene, 1,2,4-

Trichlorobenzene, 1,3,5-

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Dichlorobenzene, 1,2- | 1.0 |
| Dichlorobenzene, 1,3- | 1.0 |
| Dichlorobenzene, 1,4- | 1.0 |
| Hexachlorobenzene | 1.0 |
| Pentachlorobenzene | 1.0 |
| Tetrachlorobenzene, 1,2,3,4- | 1.0 |
| Tetrachlorobenzene, 1,2,3,5- | 1.0 |
| Tetrachlorobenzene, 1,2,4,5- | 1.0 |
| Trichlorobenzene, 1,2,3- | 1.0 |
| Trichlorobenzene, 1,2,4- | 1.0 |
| Trichlorobenzene, 1,3,5- | 1.0 |
| Soil Bioavailability (-) | |
| Dichlorobenzene, 1,2- | 1.0 |
| Dichlorobenzene, 1,3- | 1.0 |
| Dichlorobenzene, 1,4- | 1.0 |
| Hexachlorobenzene | 1.0 |
| Pentachlorobenzene | 1.0 |
| Tetrachlorobenzene, 1,2,3,4- | 1.0 |
| Tetrachlorobenzene, 1,2,3,5- | 1.0 |
| Tetrachlorobenzene, 1,2,4,5- | 1.0 |
| Trichlorobenzene, 1,2,3- | 1.0 |
| Trichlorobenzene, 1,2,4- | 1.0 |
| Trichlorobenzene, 1,3,5- | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Dichlorobenzene, 1,2- | 0.10 |
| Dichlorobenzene, 1,3- | 0.10 |
| Dichlorobenzene, 1,4- | 0.10 |
| Hexachlorobenzene | 0.10 |
| Pentachlorobenzene | 0.10 |
| Tetrachlorobenzene, 1,2,3,4- | 0.10 |
| Tetrachlorobenzene, 1,2,3,5- | 0.10 |
| Tetrachlorobenzene, 1,2,4,5- | 0.10 |
| Trichlorobenzene, 1,2,3- | 0.10 |
| Trichlorobenzene, 1,2,4- | 0.10 |
| Trichlorobenzene, 1,3,5- | 0.10 |
| Soil Bioavailability (-) | |
| Dichlorobenzene, 1,2- | 1.0 |
| Dichlorobenzene, 1,3- | 1.0 |
| Dichlorobenzene, 1,4- | 1.0 |
| Hexachlorobenzene | 1.0 |
| Pentachlorobenzene | 1.0 |
| Tetrachlorobenzene, 1,2,3,4- | 1.0 |

| | |
|---|---|
| Tetrachlorobenzene, 1,2,3,5- | 1.0 |
| Tetrachlorobenzene, 1,2,4,5- | 1.0 |
| Trichlorobenzene, 1,2,3- | 1.0 |
| Trichlorobenzene, 1,2,4- | 1.0 |
| Trichlorobenzene, 1,3,5- | 1.0 |

MEDIA CONCENTRATIONS
---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Dichlorobenzene, 1,2- | 1.16E+05 |
| Dichlorobenzene, 1,3- | 8.11E+02 |
| Dichlorobenzene, 1,4- | 2.89E+04 |
| Hexachlorobenzene | 21. |
| Pentachlorobenzene | 2.16E+02 |
| Tetrachlorobenzene, 1,2,3,4- | 81. |
| Tetrachlorobenzene, 1,2,3,5- | 81. |
| Tetrachlorobenzene, 1,2,4,5- | 81. |
| Trichlorobenzene, 1,2,3- | 2.08E+03 |
| Trichlorobenzene, 1,2,4- | 2.70E+03 |
| Trichlorobenzene, 1,3,5- | 2.08E+03 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichlorobenzene, 1,2- | ND |
| Dichlorobenzene, 1,3- | ND |
| Dichlorobenzene, 1,4- | ND |
| Hexachlorobenzene | 0.30 |
| Pentachlorobenzene | ND |
| Tetrachlorobenzene, 1,2,3,4- | ND |
| Tetrachlorobenzene, 1,2,3,5- | ND |
| Tetrachlorobenzene, 1,2,4,5- | ND |
| Trichlorobenzene, 1,2,3- | ND |
| Trichlorobenzene, 1,2,4- | ND |
| Trichlorobenzene, 1,3,5- | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichlorobenzene, 1,2- | 0.43 |
| Dichlorobenzene, 1,3- | 3.00E-03 |
| Dichlorobenzene, 1,4- | 0.11 |
| Hexachlorobenzene | ND |
| Pentachlorobenzene | 8.00E-04 |
| Tetrachlorobenzene, 1,2,3,4- | 3.00E-04 |
| Tetrachlorobenzene, 1,2,3,5- | 3.00E-04 |
| Tetrachlorobenzene, 1,2,4,5- | 3.00E-04 |
| Trichlorobenzene, 1,2,3- | 7.70E-03 |
| Trichlorobenzene, 1,2,4- | 1.00E-02 |
| Trichlorobenzene, 1,3,5- | 7.70E-03 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichlorobenzene, 1,2- | ND |
| Dichlorobenzene, 1,3- | ND |
| Dichlorobenzene, 1,4- | ND |
| Hexachlorobenzene | 0.30 |
| Pentachlorobenzene | ND |
| Tetrachlorobenzene, 1,2,3,4- | ND |
| Tetrachlorobenzene, 1,2,3,5- | ND |
| Tetrachlorobenzene, 1,2,4,5- | ND |
| Trichlorobenzene, 1,2,3- | ND |
| Trichlorobenzene, 1,2,4- | ND |
| Trichlorobenzene, 1,3,5- | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichlorobenzene, 1,2- | 0.43 |
| Dichlorobenzene, 1,3- | 3.00E-03 |
| Dichlorobenzene, 1,4- | 0.11 |

| | CP Res-full |
|---|---|
| Hexachlorobenzene | ND |
| Pentachlorobenzene | 8.00E-04 |
| Tetrachlorobenzene, 1,2,3,4- | 3.00E-04 |
| Tetrachlorobenzene, 1,2,3,5- | 3.00E-04 |
| Tetrachlorobenzene, 1,2,4,5- | 3.00E-04 |
| Trichlorobenzene, 1,2,3- | 7.70E-03 |
| Trichlorobenzene, 1,2,4- | 1.00E-02 |
| Trichlorobenzene, 1,3,5- | 7.70E-03 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Dichlorobenzene, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 2.72E-01 |
| LADD (mg/kg-day) | 1.17E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.350E-01 |

Daily Doses and Risk for : Dichlorobenzene, 1,3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Dichlorobenzene, 1,4-

| | |
|---|---|
| CADD (mg/kg-day) | 6.79E-02 |
| LADD (mg/kg-day) | 2.91E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.343E-01 |

Daily Doses and Risk for : Hexachlorobenzene

| | |
|---|---|
| CADD (mg/kg-day) | 4.93E-05 |
| LADD (mg/kg-day) | 2.11E-05 |
| Cancer Risk (-) | 6.341E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Pentachlorobenzene

| | |
|---|---|
| CADD (mg/kg-day) | 5.07E-04 |
| LADD (mg/kg-day) | 2.17E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-04 |
| LADD (mg/kg-day) | 8.16E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-04 |
| LADD (mg/kg-day) | 8.16E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-04 |
| LADD (mg/kg-day) | 8.16E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 4.88E-03 |
| LADD (mg/kg-day) | 2.09E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.344E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-03 |
| LADD (mg/kg-day) | 2.72E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 4.88E-03 |
| LADD (mg/kg-day) | 2.09E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.344E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Dichlorobenzene, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.57E-01 |
| LADD (mg/kg-day) | 6.71E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.651E-01 |

Daily Doses and Risk for : Dichlorobenzene, 1,3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Dichlorobenzene, 1,4-

| | |
|---|---|
| CADD (mg/kg-day) | 3.90E-02 |
| LADD (mg/kg-day) | 1.67E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.647E-01 |

Daily Doses and Risk for : Hexachlorobenzene

| | |
|---|---|
| CADD (mg/kg-day) | 2.84E-05 |
| LADD (mg/kg-day) | 1.22E-05 |
| Cancer Risk (-) | 3.646E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Pentachlorobenzene

| | |
|---|---|
| CADD (mg/kg-day) | 2.92E-04 |
| LADD (mg/kg-day) | 1.25E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-04 |
| LADD (mg/kg-day) | 4.69E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-04 |
| LADD (mg/kg-day) | 4.69E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Tetrachlorobenzene, 1,2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-04 |
| LADD (mg/kg-day) | 4.69E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 2.81E-03 |
| LADD (mg/kg-day) | 1.20E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.648E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-03 |
| LADD (mg/kg-day) | 1.56E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorobenzene, 1,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.81E-03 |
| LADD (mg/kg-day) | 1.20E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.648E-01 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Dichlorobenzene, 1,2- | 1.2E+05 |
| Dichlorobenzene, 1,3- | 8.1E+02 |
| Dichlorobenzene, 1,4- | 2.9E+04 |
| Hexachlorobenzene | 2.1E+01 |
| Pentachlorobenzene | 2.2E+02 |
| Tetrachlorobenzene, 1,2,3,4- | 8.1E+01 |
| Tetrachlorobenzene, 1,2,3,5- | 8.1E+01 |
| Tetrachlorobenzene, 1,2,4,5- | 8.1E+01 |
| Trichlorobenzene, 1,2,3- | 2.1E+03 |
| Trichlorobenzene, 1,2,4- | 2.7E+03 |
| Trichlorobenzene, 1,3,5- | 2.1E+03 |

The exposure routes that depend on this source are:
- Ingestion of soil
- Dermal contact with soil

Title:
CP Res-adult CD ClFENOLES
06/11/08 20:51

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
- Chlorophenol, 2-
- Chlorophenol, 3-
- Chlorophenol, 4-
- Dichlorophenol, 2,3-
- Dichlorophenol, 2,4-
- Dichlorophenol, 2,5-
- Dichlorophenol, 2,6-
- Dichlorophenol, 3,4-
- Dichlorophenol, 3,5-
- Phenol
- Tetrachlorophenol, 2,3,4,5-
- Tetrachlorophenol, 2,3,4,6-

Tetrachlorophenol, 2,3,5,6-
Trichlorophenol, 2,3,4-
Trichlorophenol, 2,3,5-
Trichlorophenol, 2,3,6-
Trichlorophenol, 2,4,5-
Trichlorophenol, 2,4,6-
Trichlorophenol, 3,4,5-

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |
| Soil Bioavailability (-) | |
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |

| | |
|---|---|
| Exposure Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Chlorophenol, 2- | 0.10 |
| Chlorophenol, 3- | 0.10 |
| Chlorophenol, 4- | 0.10 |
| Dichlorophenol, 2,3- | 0.10 |
| Dichlorophenol, 2,4- | 0.10 |
| Dichlorophenol, 2,5- | 0.10 |
| Dichlorophenol, 2,6- | 0.10 |
| Dichlorophenol, 3,4- | 0.10 |
| Dichlorophenol, 3,5- | 0.10 |
| Phenol | 0.10 |
| Tetrachlorophenol, 2,3,4,5- | 0.10 |
| Tetrachlorophenol, 2,3,4,6- | 0.10 |
| Tetrachlorophenol, 2,3,5,6- | 0.10 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 0.10 |
| Trichlorophenol, 3,4,5- | 0.10 |

| | |
|---|---|
| Soil Bioavailability (-) | |
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Chlorophenol, 2- | 1.35E+03 |
| Chlorophenol, 3- | 1.35E+03 |
| Chlorophenol, 4- | 1.35E+03 |
| Dichlorophenol, 2,3- | 8.11E+02 |
| Dichlorophenol, 2,4- | 8.11E+02 |
| Dichlorophenol, 2,5- | 8.11E+02 |
| Dichlorophenol, 2,6- | 2.70E+02 |
| Dichlorophenol, 3,4- | 8.11E+02 |
| Dichlorophenol, 3,5- | 8.11E+02 |
| Phenol | 8.11E+04 |
| Tetrachlorophenol, 2,3,4,5- | 8.11E+03 |
| Tetrachlorophenol, 2,3,4,6- | 8.11E+03 |
| Tetrachlorophenol, 2,3,5,6- | 8.11E+03 |
| Trichlorophenol, 2,3,4- | 2.70E+04 |
| Trichlorophenol, 2,3,5- | 2.70E+04 |
| Trichlorophenol, 2,3,6- | 2.70E+04 |
| Trichlorophenol, 2,4,5- | 2.70E+04 |
| Trichlorophenol, 2,4,6- | 2.70E+02 |
| Trichlorophenol, 3,4,5- | 2.70E+04 |

SLOPE FACTORS AND REFERENCE DOSES

| | |
|---|---|
| **Ingestion Slope Factor [1/(mg/kg-day)]** | |
| Chlorophenol, 2- | ND |
| Chlorophenol, 3- | ND |
| Chlorophenol, 4- | ND |
| Dichlorophenol, 2,3- | ND |
| Dichlorophenol, 2,4- | ND |
| Dichlorophenol, 2,5- | ND |
| Dichlorophenol, 2,6- | ND |
| Dichlorophenol, 3,4- | ND |
| Dichlorophenol, 3,5- | ND |
| Phenol | ND |
| Tetrachlorophenol, 2,3,4,5- | ND |
| Tetrachlorophenol, 2,3,4,6- | ND |
| Tetrachlorophenol, 2,3,5,6- | ND |
| Trichlorophenol, 2,3,4- | ND |
| Trichlorophenol, 2,3,5- | ND |
| Trichlorophenol, 2,3,6- | ND |
| Trichlorophenol, 2,4,5- | ND |
| Trichlorophenol, 2,4,6- | 1.10E-02 |
| Trichlorophenol, 3,4,5- | ND |
| **Ingestion Reference Dose (mg/kg-day)** | |
| Chlorophenol, 2- | 5.00E-03 |
| Chlorophenol, 3- | 5.00E-03 |
| Chlorophenol, 4- | 5.00E-03 |
| Dichlorophenol, 2,3- | 3.00E-03 |
| Dichlorophenol, 2,4- | 3.00E-03 |
| Dichlorophenol, 2,5- | 3.00E-03 |
| Dichlorophenol, 2,6- | 1.00E-03 |
| Dichlorophenol, 3,4- | 3.00E-03 |
| Dichlorophenol, 3,5- | 3.00E-03 |
| Phenol | 0.30 |
| Tetrachlorophenol, 2,3,4,5- | 3.00E-02 |
| Tetrachlorophenol, 2,3,4,6- | 3.00E-02 |
| Tetrachlorophenol, 2,3,5,6- | 3.00E-02 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 1.00E-03 |
| Trichlorophenol, 3,4,5- | 0.10 |
| **Dermal Slope Factor [1/(mg/kg-day)]** | |
| Chlorophenol, 2- | ND |
| Chlorophenol, 3- | ND |
| Chlorophenol, 4- | ND |
| Dichlorophenol, 2,3- | ND |
| Dichlorophenol, 2,4- | ND |
| Dichlorophenol, 2,5- | ND |
| Dichlorophenol, 2,6- | ND |
| Dichlorophenol, 3,4- | ND |
| Dichlorophenol, 3,5- | ND |
| Phenol | ND |
| Tetrachlorophenol, 2,3,4,5- | ND |
| Tetrachlorophenol, 2,3,4,6- | ND |
| Tetrachlorophenol, 2,3,5,6- | ND |
| Trichlorophenol, 2,3,4- | ND |
| Trichlorophenol, 2,3,5- | ND |
| Trichlorophenol, 2,3,6- | ND |
| Trichlorophenol, 2,4,5- | ND |
| Trichlorophenol, 2,4,6- | 1.10E-02 |
| Trichlorophenol, 3,4,5- | ND |
| **Dermal Reference Dose (mg/kg-day)** | |
| Chlorophenol, 2- | 5.00E-03 |

| | CP Res-full |
|---|---|
| Chlorophenol, 3- | 5.00E-03 |
| Chlorophenol, 4- | 5.00E-03 |
| Dichlorophenol, 2,3- | 3.00E-03 |
| Dichlorophenol, 2,4- | 3.00E-03 |
| Dichlorophenol, 2,5- | 3.00E-03 |
| Dichlorophenol, 2,6- | 1.00E-03 |
| Dichlorophenol, 3,4- | 3.00E-03 |
| Dichlorophenol, 3,5- | 3.00E-03 |
| Phenol | 0.30 |
| Tetrachlorophenol, 2,3,4,5- | 3.00E-02 |
| Tetrachlorophenol, 2,3,4,6- | 3.00E-02 |
| Tetrachlorophenol, 2,3,5,6- | 3.00E-02 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 1.00E-03 |
| Trichlorophenol, 3,4,5- | 0.10 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Chlorophenol, 2-

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-03 |
| LADD (mg/kg-day) | 1.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Chlorophenol, 3-

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-03 |
| LADD (mg/kg-day) | 1.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Chlorophenol, 4-

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-03 |
| LADD (mg/kg-day) | 1.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,6-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-04 |

| | CP Res-full |
|---|---|
| LADD (mg/kg-day) | 2.72E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-03 |
| LADD (mg/kg-day) | 8.16E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Phenol

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-01 |
| LADD (mg/kg-day) | 8.16E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-02 |
| LADD (mg/kg-day) | 8.16E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-02 |
| LADD (mg/kg-day) | 8.16E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,5,6-

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-02 |
| LADD (mg/kg-day) | 8.16E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,6-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-04 |
| LADD (mg/kg-day) | 2.72E-04 |
| Cancer Risk (-) | 2.989E-06 |

| | |
|---|---|
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichlorophenol, 3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Chlorophenol, 2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-03 |
| LADD (mg/kg-day) | 7.81E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Chlorophenol, 3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-03 |
| LADD (mg/kg-day) | 7.81E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Chlorophenol, 4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-03 |
| LADD (mg/kg-day) | 7.81E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,6-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-04 |
| LADD (mg/kg-day) | 1.56E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-03 |
| LADD (mg/kg-day) | 4.69E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Phenol

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-01 |
| LADD (mg/kg-day) | 4.69E-02 |

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-02 |
| LADD (mg/kg-day) | 4.69E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-02 |
| LADD (mg/kg-day) | 4.69E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,5,6-

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-02 |
| LADD (mg/kg-day) | 4.69E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,6-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-04 |
| LADD (mg/kg-day) | 1.56E-04 |
| Cancer Risk (-) | 1.719E-06 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichlorophenol, 3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Chlorophenol, 2- | 1.4E+03 |
| Chlorophenol, 3- | 1.4E+03 |
| Chlorophenol, 4- | 1.4E+03 |

| | |
|---|---|
| Dichlorophenol, 2,3- | 8.1E+02 |
| Dichlorophenol, 2,4- | 8.1E+02 |
| Dichlorophenol, 2,5- | 8.1E+02 |
| Dichlorophenol, 2,6- | 2.7E+02 |
| Dichlorophenol, 3,4- | 8.1E+02 |
| Dichlorophenol, 3,5- | 8.1E+02 |
| Phenol | 8.1E+04 |
| Tetrachlorophenol, 2,3,4,5- | 8.1E+03 |
| Tetrachlorophenol, 2,3,4,6- | 8.1E+03 |
| Tetrachlorophenol, 2,3,5,6- | 8.1E+03 |
| Trichlorophenol, 2,3,4- | 2.7E+04 |
| Trichlorophenol, 2,3,5- | 2.7E+04 |
| Trichlorophenol, 2,3,6- | 2.7E+04 |
| Trichlorophenol, 2,4,5- | 2.7E+04 |
| Trichlorophenol, 2,4,6- | 2.7E+02 |
| Trichlorophenol, 3,4,5- | 2.7E+04 |

---

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD DD´s
06/12/08 11:54

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
DDD
DDE
DDT

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |
| Soil Bioavailability (-) | |
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for | |

Dermal Exposure to Soil (-)

| | |
|---|---|
| DDD | 3.00E-02 |
| DDE | 3.00E-02 |
| DDT | 3.00E-02 |

Soil Bioavailability (-)

| | |
|---|---|
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| DDD | 35. |
| DDE | 25. |
| DDT | 25. |

SLOPE FACTORS AND REFERENCE DOSES

---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| DDD | 0.24 |
| DDE | 0.34 |
| DDT | 0.34 |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| DDD | 1.00E-02 |
| DDE | 1.00E-02 |
| DDT | 1.00E-02 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| DDD | 0.24 |
| DDE | 0.34 |
| DDT | 0.34 |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| DDD | 1.00E-02 |
| DDE | 1.00E-02 |
| DDT | 1.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : DDD

| | |
|---|---|
| CADD (mg/kg-day) | 8.29E-05 |
| LADD (mg/kg-day) | 3.55E-05 |
| Cancer Risk (-) | 8.526E-06 |
| Hazard Index (-) | 8.290E-03 |

Daily Doses and Risk for : DDE

| | |
|---|---|
| CADD (mg/kg-day) | 5.85E-05 |
| LADD (mg/kg-day) | 2.51E-05 |
| Cancer Risk (-) | 8.520E-06 |
| Hazard Index (-) | 5.847E-03 |

Daily Doses and Risk for : DDT

| | |
|---|---|
| CADD (mg/kg-day) | 5.85E-05 |
| LADD (mg/kg-day) | 2.51E-05 |
| Cancer Risk (-) | 8.520E-06 |

| | CP Res-full |
|---|---|
| Hazard Index (-) | 5.847E-03 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : DDD

| | |
|---|---|
| CADD (mg/kg-day) | 1.43E-05 |
| LADD (mg/kg-day) | 6.13E-06 |
| Cancer Risk (-) | 1.471E-06 |
| Hazard Index (-) | 1.430E-03 |

Daily Doses and Risk for : DDE

| | |
|---|---|
| CADD (mg/kg-day) | 1.01E-05 |
| LADD (mg/kg-day) | 4.32E-06 |
| Cancer Risk (-) | 1.470E-06 |
| Hazard Index (-) | 1.009E-03 |

Daily Doses and Risk for : DDT

| | |
|---|---|
| CADD (mg/kg-day) | 1.01E-05 |
| LADD (mg/kg-day) | 4.32E-06 |
| Cancer Risk (-) | 1.470E-06 |
| Hazard Index (-) | 1.009E-03 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| DDD | 3.5E+01 |
| DDE | 2.5E+01 |
| DDT | 2.5E+01 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD metales
06/11/08 20:53

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium (III)
Chromium (VI)
Chromium (total)
Cobalt
Copper
Lead (inorganic)
Manganese
Mercury, elemental
Nickel (soluble salts)

Selenium
Tin
Vanadium
Zinc

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |
| Soil Bioavailability (-) | |
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |

| | |
|---|---|
| Aluminum | 0.10 |
| Antimony | 0.10 |
| Arsenic | 3.00E-02 |
| Barium | 3.00E-02 |
| Beryllium | 1.00E-02 |
| Cadmium | 1.00E-03 |
| Chromium (III) | 1.00E-02 |
| Chromium (VI) | 1.00E-02 |
| Chromium (total) | 1.00E-02 |
| Cobalt | 0.10 |
| Copper | 1.00E-02 |
| Lead (inorganic) | 1.00E-02 |
| Manganese | 0.10 |
| Mercury, elemental | 0.10 |
| Nickel (soluble salts) | 1.00E-02 |
| Selenium | 1.00E-02 |
| Tin | 0.10 |
| Vanadium | 1.00E-02 |
| Zinc | 1.00E-02 |

Soil Bioavailability (-)

| | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |

## MEDIA CONCENTRATIONS

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Aluminum | 2.70E+05 |
| Antimony | 1.62E+03 |
| Arsenic | 4.8 |
| Barium | 4.8 |
| Beryllium | 8.05E+02 |
| Cadmium | 42. |
| Chromium (III) | 6.04E+05 |
| Chromium (VI) | 1.21E+03 |
| Chromium (total) | 6.68E+02 |
| Cobalt | 3.79E+02 |
| Copper | 2.66E+04 |
| Lead (inorganic) | 1.41E+03 |
| Manganese | 1.27E+04 |
| Mercury, elemental | 5.41E+02 |
| Nickel (soluble salts) | 4.83E+03 |
| Selenium | 1.61E+03 |
| Tin | 1.62E+05 |
| Vanadium | 4.03E+02 |
| Zinc | 1.21E+05 |

## SLOPE FACTORS AND REFERENCE DOSES

| Ingestion Slope Factor [1/(mg/kg-day)] | |
|---|---|
| Aluminum | ND |
| Antimony | ND |
| Arsenic | 1.8 |
| Barium | 1.8 |
| Beryllium | ND |
| Cadmium | ND |
| Chromium (III) | ND |
| Chromium (VI) | ND |
| Chromium (total) | ND |
| Cobalt | ND |
| Copper | ND |
| Lead (inorganic) | ND |
| Manganese | ND |
| Mercury, elemental | ND |
| Nickel (soluble salts) | ND |
| Selenium | ND |
| Tin | ND |
| Vanadium | ND |
| Zinc | ND |

| Ingestion Reference Dose (mg/kg-day) | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 6.00E-03 |
| Arsenic | ND |
| Barium | ND |
| Beryllium | 2.00E-03 |
| Cadmium | 1.00E-04 |
| Chromium (III) | 1.5 |
| Chromium (VI) | 3.00E-03 |
| Chromium (total) | 1.66E-03 |
| Cobalt | 1.40E-03 |
| Copper | 6.60E-02 |
| Lead (inorganic) | 3.50E-03 |
| Manganese | 4.70E-02 |
| Mercury, elemental | 2.00E-03 |
| Nickel (soluble salts) | 1.20E-02 |
| Selenium | 4.00E-03 |
| Tin | 0.60 |
| Vanadium | 1.00E-03 |
| Zinc | 0.30 |

| Dermal Slope Factor [1/(mg/kg-day)] | |
|---|---|
| Aluminum | ND |
| Antimony | ND |
| Arsenic | 1.8 |
| Barium | 1.8 |
| Beryllium | ND |
| Cadmium | ND |
| Chromium (III) | ND |
| Chromium (VI) | ND |
| Chromium (total) | ND |
| Cobalt | ND |
| Copper | ND |
| Lead (inorganic) | ND |
| Manganese | ND |
| Mercury, elemental | ND |
| Nickel (soluble salts) | ND |
| Selenium | ND |
| Tin | ND |
| Vanadium | ND |
| Zinc | ND |

| Dermal Reference Dose (mg/kg-day) | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 6.00E-03 |
| Arsenic | ND |
| Barium | ND |

| | CP Res-full |
|---|---|
| Beryllium | 2.00E-03 |
| Cadmium | 1.00E-04 |
| Chromium (III) | 1.5 |
| Chromium (VI) | 3.00E-03 |
| Chromium (total) | 1.66E-03 |
| Cobalt | 1.40E-03 |
| Copper | 6.60E-02 |
| Lead (inorganic) | 3.50E-03 |
| Manganese | 4.70E-02 |
| Mercury, elemental | 2.00E-03 |
| Nickel (soluble salts) | 1.20E-02 |
| Selenium | 4.00E-03 |
| Tin | 0.60 |
| Vanadium | 1.00E-03 |
| Zinc | 0.30 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Aluminum

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-01 |
| LADD (mg/kg-day) | 2.72E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Antimony

| | |
|---|---|
| CADD (mg/kg-day) | 3.80E-03 |
| LADD (mg/kg-day) | 1.63E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Arsenic

| | |
|---|---|
| CADD (mg/kg-day) | 1.13E-05 |
| LADD (mg/kg-day) | 4.85E-06 |
| Cancer Risk (-) | 8.538E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Barium

| | |
|---|---|
| CADD (mg/kg-day) | 1.13E-05 |
| LADD (mg/kg-day) | 4.85E-06 |
| Cancer Risk (-) | 8.538E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Beryllium

| | |
|---|---|
| CADD (mg/kg-day) | 1.89E-03 |
| LADD (mg/kg-day) | 8.10E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.452E-01 |

Daily Doses and Risk for : Cadmium

| | |
|---|---|
| CADD (mg/kg-day) | 9.93E-05 |
| LADD (mg/kg-day) | 4.26E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.933E-01 |

Daily Doses and Risk for : Chromium (III)

| | |
|---|---|
| CADD (mg/kg-day) | 1.42E+00 |
| LADD (mg/kg-day) | 6.08E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.456E-01 |

Daily Doses and Risk for : Chromium (VI)
CADD (mg/kg-day) 2.84E-03
LADD (mg/kg-day) 1.22E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.472E-01

Daily Doses and Risk for : Chromium (total)
CADD (mg/kg-day) 1.57E-03
LADD (mg/kg-day) 6.72E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.450E-01

Daily Doses and Risk for : Cobalt
CADD (mg/kg-day) 8.90E-04
LADD (mg/kg-day) 3.81E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 6.357E-01

Daily Doses and Risk for : Copper
CADD (mg/kg-day) 6.25E-02
LADD (mg/kg-day) 2.68E-02
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.465E-01

Daily Doses and Risk for : Lead (inorganic)
CADD (mg/kg-day) 3.31E-03
LADD (mg/kg-day) 1.42E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.460E-01

Daily Doses and Risk for : Manganese
CADD (mg/kg-day) 2.98E-02
LADD (mg/kg-day) 1.28E-02
Cancer Risk (-) 0.000E+00
Hazard Index (-) 6.346E-01

Daily Doses and Risk for : Mercury, elemental
CADD (mg/kg-day) 1.27E-03
LADD (mg/kg-day) 5.44E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 6.352E-01

Daily Doses and Risk for : Nickel (soluble salts)
CADD (mg/kg-day) 1.13E-02
LADD (mg/kg-day) 4.86E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.452E-01

Daily Doses and Risk for : Selenium
CADD (mg/kg-day) 3.78E-03
LADD (mg/kg-day) 1.62E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.452E-01

Daily Doses and Risk for : Tin
CADD (mg/kg-day) 3.80E-01
LADD (mg/kg-day) 1.63E-01
Cancer Risk (-) 0.000E+00
Hazard Index (-) 6.341E-01

Daily Doses and Risk for : Vanadium
CADD (mg/kg-day) 9.46E-04
LADD (mg/kg-day) 4.06E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 9.464E-01

Daily Doses and Risk for : Zinc

| | CP Res-full |
|---|---|
| CADD (mg/kg-day) | 2.84E-01 |
| LADD (mg/kg-day) | 1.22E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.472E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Aluminum

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-01 |
| LADD (mg/kg-day) | 1.56E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Antimony

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 9.37E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Arsenic

| | |
|---|---|
| CADD (mg/kg-day) | 1.95E-06 |
| LADD (mg/kg-day) | 8.37E-07 |
| Cancer Risk (-) | 1.473E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Barium

| | |
|---|---|
| CADD (mg/kg-day) | 1.95E-06 |
| LADD (mg/kg-day) | 8.37E-07 |
| Cancer Risk (-) | 1.473E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Beryllium

| | |
|---|---|
| CADD (mg/kg-day) | 1.09E-04 |
| LADD (mg/kg-day) | 4.66E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.435E-02 |

Daily Doses and Risk for : Cadmium

| | |
|---|---|
| CADD (mg/kg-day) | 5.71E-07 |
| LADD (mg/kg-day) | 2.45E-07 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.712E-03 |

Daily Doses and Risk for : Chromium (III)

| | |
|---|---|
| CADD (mg/kg-day) | 8.16E-02 |
| LADD (mg/kg-day) | 3.50E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.437E-02 |

Daily Doses and Risk for : Chromium (VI)

| | |
|---|---|
| CADD (mg/kg-day) | 1.63E-04 |
| LADD (mg/kg-day) | 7.00E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.446E-02 |

Daily Doses and Risk for : Chromium (total)

| | |
|---|---|
| CADD (mg/kg-day) | 9.02E-05 |
| LADD (mg/kg-day) | 3.87E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.434E-02 |

Daily Doses and Risk for : Cobalt

| | |
|---|---|
| CADD (mg/kg-day) | 5.12E-04 |
| LADD (mg/kg-day) | 2.19E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.655E-01 |

Daily Doses and Risk for : Copper
- CADD (mg/kg-day) 3.59E-03
- LADD (mg/kg-day) 1.54E-03
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.442E-02

Daily Doses and Risk for : Lead (inorganic)
- CADD (mg/kg-day) 1.90E-04
- LADD (mg/kg-day) 8.16E-05
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.440E-02

Daily Doses and Risk for : Manganese
- CADD (mg/kg-day) 1.71E-02
- LADD (mg/kg-day) 7.35E-03
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 3.649E-01

Daily Doses and Risk for : Mercury, elemental
- CADD (mg/kg-day) 7.31E-04
- LADD (mg/kg-day) 3.13E-04
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 3.653E-01

Daily Doses and Risk for : Nickel (soluble salts)
- CADD (mg/kg-day) 6.52E-04
- LADD (mg/kg-day) 2.80E-04
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.435E-02

Daily Doses and Risk for : Selenium
- CADD (mg/kg-day) 2.17E-04
- LADD (mg/kg-day) 9.32E-05
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.435E-02

Daily Doses and Risk for : Tin
- CADD (mg/kg-day) 2.19E-01
- LADD (mg/kg-day) 9.37E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 3.646E-01

Daily Doses and Risk for : Vanadium
- CADD (mg/kg-day) 5.44E-05
- LADD (mg/kg-day) 2.33E-05
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.442E-02

Daily Doses and Risk for : Zinc
- CADD (mg/kg-day) 1.63E-02
- LADD (mg/kg-day) 7.00E-03
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 5.446E-02

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs [mg/kg] |
|---|---|
| Aluminum | 2.7E+05 |
| Antimony | 1.6E+03 |
| Arsenic | 4.8E+00 |
| Barium | 4.8E+00 |
| Beryllium | 8.1E+02 |

| | |
|---|---|
| Cadmium | 4.2E+01 |
| Chromium (III) | 6.0E+05 |
| Chromium (VI) | 1.2E+03 |
| Chromium (total) | 6.7E+02 |
| Cobalt | 3.8E+02 |
| Copper | 2.7E+04 |
| Lead (inorganic) | 1.4E+03 |
| Manganese | 1.3E+04 |
| Mercury, elemental | 5.4E+02 |
| Nickel (soluble salts) | 4.8E+03 |
| Selenium | 1.6E+03 |
| Tin | 1.6E+05 |
| Vanadium | 4.0E+02 |
| Zinc | 1.2E+05 |

---

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD PAH
06/11/08 20:55

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Acenaphthene
Acenaphthylene
Anthracene
Benz-a-anthracene
Benzo-a-pyrene
Benzo-b-fluoranthene
Benzo-g,h,i-perylene
Benzo-k-fluoranthene
Chrysene
Dibenz-a,h-anthracene
Fluoranthene
Fluorene
Indeno-1,2,3-cd-pyrene
Phenanthrene

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |

| | |
|---|---|
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.10E+11 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |

Soil Bioavailability (-)

| | |
|---|---|
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.0 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |

Absorption Adjustment Factor for Dermal Exposure to Soil (-)

| | |
|---|---|
| Acenaphthene | 0.10 |
| Acenaphthylene | 0.10 |
| Anthracene | 0.10 |
| Benz-a-anthracene | 0.10 |
| Benzo-a-pyrene | 0.10 |
| Benzo-b-fluoranthene | 0.10 |
| Benzo-g,h,i-perylene | 0.10 |
| Benzo-k-fluoranthene | 0.10 |
| Chrysene | 0.13 |
| Dibenz-a,h-anthracene | 0.10 |
| Fluoranthene | 0.10 |
| Fluorene | 0.10 |
| Indeno-1,2,3-cd-pyrene | 0.13 |
| Phenanthrene | 0.13 |

Soil Bioavailability (-)

| | |
|---|---|
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.0 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Acenaphthene | 1.62E+04 |

| | |
|---|---|
| Acenaphthylene | 1.62E+04 |
| Anthracene | 8.11E+04 |
| Benz-a-anthracene | 8.6 |
| Benzo-a-pyrene | 2.7 |
| Benzo-b-fluoranthene | 8.6 |
| Benzo-g,h,i-perylene | 8.11E+03 |
| Benzo-k-fluoranthene | 86. |
| Chrysene | 7.79E+02 |
| Dibenz-a,h-anthracene | 1.24E-11 |
| Fluoranthene | 1.08E+04 |
| Fluorene | 1.08E+04 |
| Indeno-1,2,3-cd-pyrene | 7.8 |
| Phenanthrene | 7.31E+03 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Acenaphthene | ND |
| Acenaphthylene | ND |
| Anthracene | ND |
| Benz-a-anthracene | 0.73 |
| Benzo-a-pyrene | 2.3 |
| Benzo-b-fluoranthene | 0.73 |
| Benzo-g,h,i-perylene | ND |
| Benzo-k-fluoranthene | 7.30E-02 |
| Chrysene | 7.30E-03 |
| Dibenz-a,h-anthracene | 7.3 |
| Fluoranthene | ND |
| Fluorene | ND |
| Indeno-1,2,3-cd-pyrene | 0.73 |
| Phenanthrene | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Acenaphthene | 6.00E-02 |
| Acenaphthylene | 6.00E-02 |
| Anthracene | 0.30 |
| Benz-a-anthracene | ND |
| Benzo-a-pyrene | ND |
| Benzo-b-fluoranthene | ND |
| Benzo-g,h,i-perylene | 3.00E-02 |
| Benzo-k-fluoranthene | ND |
| Chrysene | ND |
| Dibenz-a,h-anthracene | ND |
| Fluoranthene | 4.00E-02 |
| Fluorene | 4.00E-02 |
| Indeno-1,2,3-cd-pyrene | ND |
| Phenanthrene | 3.00E-02 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Acenaphthene | ND |
| Acenaphthylene | ND |
| Anthracene | ND |
| Benz-a-anthracene | 0.73 |
| Benzo-a-pyrene | 2.3 |
| Benzo-b-fluoranthene | 0.73 |
| Benzo-g,h,i-perylene | ND |
| Benzo-k-fluoranthene | 7.30E-02 |
| Chrysene | 7.30E-03 |
| Dibenz-a,h-anthracene | 7.3 |
| Fluoranthene | ND |
| Fluorene | ND |
| Indeno-1,2,3-cd-pyrene | 0.73 |
| Phenanthrene | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Acenaphthene | 6.00E-02 |
| Acenaphthylene | 6.00E-02 |

| | CP Res-full |
|---|---|
| Anthracene | 0.30 |
| Benz-a-anthracene | ND |
| Benzo-a-pyrene | ND |
| Benzo-b-fluoranthene | ND |
| Benzo-g,h,i-perylene | 3.00E-02 |
| Benzo-k-fluoranthene | ND |
| Chrysene | ND |
| Dibenz-a,h-anthracene | ND |
| Fluoranthene | 4.00E-02 |
| Fluorene | 4.00E-02 |
| Indeno-1,2,3-cd-pyrene | ND |
| Phenanthrene | 3.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Acenaphthene

| | |
|---|---|
| CADD (mg/kg-day) | 3.80E-02 |
| LADD (mg/kg-day) | 1.63E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Acenaphthylene

| | |
|---|---|
| CADD (mg/kg-day) | 3.80E-02 |
| LADD (mg/kg-day) | 1.63E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-01 |
| LADD (mg/kg-day) | 8.16E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Benz-a-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 2.03E-05 |
| LADD (mg/kg-day) | 8.70E-06 |
| Cancer Risk (-) | 6.348E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 6.36E-06 |
| LADD (mg/kg-day) | 2.73E-06 |
| Cancer Risk (-) | 6.355E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-b-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 2.03E-05 |
| LADD (mg/kg-day) | 8.70E-06 |
| Cancer Risk (-) | 6.348E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-g,h,i-perylene

| | |
|---|---|
| CADD (mg/kg-day) | 1.90E-02 |
| LADD (mg/kg-day) | 8.16E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.348E-01 |

Daily Doses and Risk for : Benzo-k-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 2.03E-04 |

| | CP Res-full |
|---|---|
| LADD (mg/kg-day) | 8.70E-05 |
| Cancer Risk (-) | 6.348E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Chrysene

| | |
|---|---|
| CADD (mg/kg-day) | 1.83E-03 |
| LADD (mg/kg-day) | 7.84E-04 |
| Cancer Risk (-) | 5.723E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dibenz-a,h-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 3.20E-06 |
| LADD (mg/kg-day) | 1.37E-06 |
| Cancer Risk (-) | 1.002E-05 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 2.54E-02 |
| LADD (mg/kg-day) | 1.09E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Fluorene

| | |
|---|---|
| CADD (mg/kg-day) | 2.54E-02 |
| LADD (mg/kg-day) | 1.09E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Indeno-1,2,3-cd-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 1.83E-05 |
| LADD (mg/kg-day) | 7.84E-06 |
| Cancer Risk (-) | 5.723E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Phenanthrene

| | |
|---|---|
| CADD (mg/kg-day) | 1.72E-02 |
| LADD (mg/kg-day) | 7.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 5.722E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Acenaphthene

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 9.37E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Acenaphthylene

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 9.37E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-01 |
| LADD (mg/kg-day) | 4.69E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Benz-a-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 1.17E-05 |
| LADD (mg/kg-day) | 5.00E-06 |
| Cancer Risk (-) | 3.650E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | CP Res-full |
|---|---|
| CADD (mg/kg-day) | 3.66E-06 |
| LADD (mg/kg-day) | 1.57E-06 |
| Cancer Risk (-) | 3.654E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-b-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 1.17E-05 |
| LADD (mg/kg-day) | 5.00E-06 |
| Cancer Risk (-) | 3.650E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-g,h,i-perylene

| | |
|---|---|
| CADD (mg/kg-day) | 1.10E-02 |
| LADD (mg/kg-day) | 4.69E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.650E-01 |

Daily Doses and Risk for : Benzo-k-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 1.17E-04 |
| LADD (mg/kg-day) | 5.00E-05 |
| Cancer Risk (-) | 3.650E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Chrysene

| | |
|---|---|
| CADD (mg/kg-day) | 1.37E-03 |
| LADD (mg/kg-day) | 5.86E-04 |
| Cancer Risk (-) | 4.278E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dibenz-a,h-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 1.67E-17 |
| LADD (mg/kg-day) | 7.18E-18 |
| Cancer Risk (-) | 5.238E-17 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 1.46E-02 |
| LADD (mg/kg-day) | 6.25E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Fluorene

| | |
|---|---|
| CADD (mg/kg-day) | 1.46E-02 |
| LADD (mg/kg-day) | 6.25E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Indeno-1,2,3-cd-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 1.37E-05 |
| LADD (mg/kg-day) | 5.86E-06 |
| Cancer Risk (-) | 4.278E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Phenanthrene

| | |
|---|---|
| CADD (mg/kg-day) | 1.28E-02 |
| LADD (mg/kg-day) | 5.50E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 4.277E-01 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Acenaphthene | 1.6E+04 |

| | |
|---|---|
| Acenaphthylene | 1.6E+04 |
| Anthracene | 8.1E+04 |
| Benz-a-anthracene | 8.6E+00 |
| Benzo-a-pyrene | 2.7E+00 |
| Benzo-b-fluoranthene | 8.6E+00 |
| Benzo-g,h,i-perylene | 8.1E+03 |
| Benzo-k-fluoranthene | 8.6E+01 |
| Chrysene | 7.8E+02 |
| Dibenz-a,h-anthracene | 1.2E-11 |
| Fluoranthene | 1.1E+04 |
| Fluorene | 1.1E+04 |
| Indeno-1,2,3-cd-pyrene | 7.8E+00 |
| Phenanthrene | 7.3E+03 |

---

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD VARIOS
06/11/08 20:36

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Biphenyl, 1,1-
Bis (2-ethyl-hexyl) phthalate
Butyl benzyl phthalate
Carbon tetrachloride (Tetrachlorome
Chlorpyrifos
Cresol, m- (3-methylphenol)
Cresol, o- (2-methylphenol)
Cresol, p- (4-methylphenol)
Cymene (isopropyltoluene)
Diethyl phthalate
Endrin
Hexane, n-
Isoamyl alcohol
Isopropyl alcohol
Malathion

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Biphenyl, 1,1- | 1.0 |
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachlorome | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |

| | |
|---|---|
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |

Soil Bioavailability (-)

| | |
|---|---|
| Biphenyl, 1,1- | 1.0 |
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachl | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |

Absorption Adjustment Factor for Dermal Exposure to Soil (-)

| | |
|---|---|
| Biphenyl, 1,1- | 0.10 |
| Bis (2-ethyl-hexyl) phthalate | 0.10 |
| Butyl benzyl phthalate | 0.10 |
| Carbon tetrachloride (Tetrachlorome | 0.10 |
| Chlorpyrifos | 0.10 |
| Cresol, m- (3-methylphenol) | 0.10 |
| Cresol, o- (2-methylphenol) | 0.10 |
| Cresol, p- (4-methylphenol) | 0.10 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.10 |
| Endrin | 0.10 |
| Hexane, n- | 0.10 |
| Isoamyl alcohol | 0.10 |
| Isopropyl alcohol | 0.10 |
| Malathion | 0.10 |

Soil Bioavailability (-)

| | |
|---|---|
| Biphenyl, 1,1- | 1.0 |
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachl | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Biphenyl, 1,1- | 1.35E+04 |
| Bis (2-ethyl-hexyl) phthalate | 4.51E+02 |
| Butyl benzyl phthalate | 5.41E+04 |
| Carbon tetrachloride (Tetrachlorome | 48. |
| Chlorpyrifos | 2.70E+03 |
| Cresol, m- (3-methylphenol) | 1.35E+04 |
| Cresol, o- (2-methylphenol) | 1.35E+04 |
| Cresol, p- (4-methylphenol) | 1.35E+03 |
| Cymene (isopropyltoluene) | 2.70E+04 |
| Diethyl phthalate | 2.16E+05 |
| Endrin | 54. |
| Hexane, n- | 1.00E+06 |
| Isoamyl alcohol | 1.35E+03 |
| Isopropyl alcohol | 5.41E+04 |
| Malathion | 5.41E+03 |

SLOPE FACTORS AND REFERENCE DOSES

---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Biphenyl, 1,1- | ND |
| Bis (2-ethyl-hexyl) phthalate | 1.40E-02 |
| Butyl benzyl phthalate | ND |
| Carbon tetrachloride (Tetrachlorome | 0.13 |
| Chlorpyrifos | ND |
| Cresol, m- (3-methylphenol) | ND |
| Cresol, o- (2-methylphenol) | ND |
| Cresol, p- (4-methylphenol) | ND |
| Cymene (isopropyltoluene) | ND |
| Diethyl phthalate | ND |
| Endrin | ND |
| Hexane, n- | ND |
| Isoamyl alcohol | ND |
| Isopropyl alcohol | ND |
| Malathion | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Biphenyl, 1,1- | 5.00E-02 |
| Bis (2-ethyl-hexyl) phthalate | 2.50E-02 |
| Butyl benzyl phthalate | 0.20 |
| Carbon tetrachloride (Tetrachlorome | 1.40E-03 |
| Chlorpyrifos | 1.00E-02 |
| Cresol, m- (3-methylphenol) | 5.00E-02 |
| Cresol, o- (2-methylphenol) | 5.00E-02 |
| Cresol, p- (4-methylphenol) | 5.00E-03 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.80 |
| Endrin | 2.00E-04 |
| Hexane, n- | 11. |
| Isoamyl alcohol | 5.00E-03 |
| Isopropyl alcohol | 0.20 |
| Malathion | 2.00E-02 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Biphenyl, 1,1- | ND |
| Bis (2-ethyl-hexyl) phthalate | 1.40E-02 |
| Butyl benzyl phthalate | ND |
| Carbon tetrachloride (Tetrachlorome | 0.13 |
| Chlorpyrifos | ND |
| Cresol, m- (3-methylphenol) | ND |
| Cresol, o- (2-methylphenol) | ND |
| Cresol, p- (4-methylphenol) | ND |
| Cymene (isopropyltoluene) | ND |
| Diethyl phthalate | ND |
| Endrin | ND |

| | |
|---|---|
| Hexane, n- | ND |
| Isoamyl alcohol | ND |
| Isopropyl alcohol | ND |
| Malathion | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Biphenyl, 1,1- | 5.00E-02 |
| Bis (2-ethyl-hexyl) phthalate | 2.50E-02 |
| Butyl benzyl phthalate | 0.20 |
| Carbon tetrachloride (Tetrachlorome | 1.40E-03 |
| Chlorpyrifos | 1.00E-02 |
| Cresol, m- (3-methylphenol) | 5.00E-02 |
| Cresol, o- (2-methylphenol) | 5.00E-02 |
| Cresol, p- (4-methylphenol) | 5.00E-03 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.80 |
| Endrin | 2.00E-04 |
| Hexane, n- | 11. |
| Isoamyl alcohol | 5.00E-03 |
| Isopropyl alcohol | 0.20 |
| Malathion | 2.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Biphenyl, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-02 |
| LADD (mg/kg-day) | 1.36E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Bis (2-ethyl-hexyl) phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 1.06E-03 |
| LADD (mg/kg-day) | 4.54E-04 |
| Cancer Risk (-) | 6.355E-06 |
| Hazard Index (-) | 4.236E-02 |

Daily Doses and Risk for : Butyl benzyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 1.27E-01 |
| LADD (mg/kg-day) | 5.44E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.352E-01 |

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | |
|---|---|
| CADD (mg/kg-day) | 1.14E-04 |
| LADD (mg/kg-day) | 4.88E-05 |
| Cancer Risk (-) | 6.346E-06 |
| Hazard Index (-) | 8.135E-02 |

Daily Doses and Risk for : Chlorpyrifos

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-03 |
| LADD (mg/kg-day) | 2.72E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Cresol, m- (3-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-02 |
| LADD (mg/kg-day) | 1.36E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Cresol, o- (2-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-02 |
| LADD (mg/kg-day) | 1.36E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Cresol, p- (4-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-03 |
| LADD (mg/kg-day) | 1.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Cymene (isopropyltoluene)

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Diethyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 5.07E-01 |
| LADD (mg/kg-day) | 2.17E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Endrin

| | |
|---|---|
| CADD (mg/kg-day) | 1.27E-04 |
| LADD (mg/kg-day) | 5.44E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.352E-01 |

Daily Doses and Risk for : Hexane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 2.35E+00 |
| LADD (mg/kg-day) | 1.01E+00 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.135E-01 |

Daily Doses and Risk for : Isoamyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 3.17E-03 |
| LADD (mg/kg-day) | 1.36E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Isopropyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 1.27E-01 |
| LADD (mg/kg-day) | 5.44E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.352E-01 |

Daily Doses and Risk for : Malathion

| | |
|---|---|
| CADD (mg/kg-day) | 1.27E-02 |
| LADD (mg/kg-day) | 5.44E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.352E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Biphenyl, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-02 |
| LADD (mg/kg-day) | 7.81E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Bis (2-ethyl-hexyl) phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 6.09E-04 |
| LADD (mg/kg-day) | 2.61E-04 |
| Cancer Risk (-) | 3.654E-06 |

| | |
|---|---|
| Hazard Index (-) | 2.436E-02 |

Daily Doses and Risk for : Butyl benzyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 7.31E-02 |
| LADD (mg/kg-day) | 3.13E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.653E-01 |

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | |
|---|---|
| CADD (mg/kg-day) | 6.55E-05 |
| LADD (mg/kg-day) | 2.81E-05 |
| Cancer Risk (-) | 3.649E-06 |
| Hazard Index (-) | 4.678E-02 |

Daily Doses and Risk for : Chlorpyrifos

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-03 |
| LADD (mg/kg-day) | 1.56E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Cresol, m- (3-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-02 |
| LADD (mg/kg-day) | 7.81E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Cresol, o- (2-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-02 |
| LADD (mg/kg-day) | 7.81E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Cresol, p- (4-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-03 |
| LADD (mg/kg-day) | 7.81E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Cymene (isopropyltoluene)

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Diethyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 2.92E-01 |
| LADD (mg/kg-day) | 1.25E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Endrin

| | |
|---|---|
| CADD (mg/kg-day) | 7.31E-05 |
| LADD (mg/kg-day) | 3.13E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.653E-01 |

Daily Doses and Risk for : Hexane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 1.35E+00 |
| LADD (mg/kg-day) | 5.79E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.228E-01 |

Daily Doses and Risk for : Isoamyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 1.82E-03 |
| LADD (mg/kg-day) | 7.81E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

CP Res-full

Daily Doses and Risk for : Isopropyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 7.31E-02 |
| LADD (mg/kg-day) | 3.13E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.653E-01 |

Daily Doses and Risk for : Malathion

| | |
|---|---|
| CADD (mg/kg-day) | 7.31E-03 |
| LADD (mg/kg-day) | 3.13E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.653E-01 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Adult Resident - RME | SSTLs [mg/kg] | |
|---|---|---|
| Biphenyl, 1,1- | 1.4E+04 | |
| Bis (2-ethyl-hexyl) phthalate | 4.5E+02 | |
| Butyl benzyl phthalate | 5.4E+04 | |
| Carbon tetrachloride (Tetrachlorom | 4.9E+01 | |
| Chlorpyrifos | 2.7E+03 | |
| Cresol, m- (3-methylphenol) | 1.4E+04 | |
| Cresol, o- (2-methylphenol) | 1.4E+04 | |
| Cresol, p- (4-methylphenol) | 1.4E+03 | |
| Cymene (isopropyltoluene) | 2.7E+04 | |
| Diethyl phthalate | 2.2E+05 | |
| Endrin | 5.4E+01 | |
| Hexane, n- | 1.0E+06 | * |
| Isoamyl alcohol | 1.4E+03 | |
| Isopropyl alcohol | 5.4E+04 | |
| Malathion | 5.4E+03 | |

* Target risk cannot be exceeded at any concentration.

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-adult CD VOCl
06/11/08 20:46

Scenarios:
Adult Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Hexachloroethane
Tetrachloroethane, 1,1,1,2-
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

SUMMARY OF INPUT PARAMETERS — SCENARIO: 1

---

LIFETIME AND BODY WEIGHT

| | |
|---|---|
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |

INGESTION OF SOIL

| | |
|---|---|
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 30.0 |

Absorption Adjustment Factor for Ingestion of Soil (-)

| | |
|---|---|
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |

Soil Bioavailability (-)

| | |
|---|---|
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 2.300E+04 |
| Fraction Skin Exposed to Soil (-) | 0.250 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 30.0 |

Absorption Adjustment Factor for Dermal Exposure to Soil (-)

| | |
|---|---|
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | 0.10 |
| Dichloroethylene, 1,1- | 0.10 |
| Dichloroethylene, cis-1,2- | 0.10 |
| Dichloroethylene, trans-1,2 | 0.10 |
| Hexachloroethane | 0.10 |
| Tetrachloroethane, 1,1,1,2- | 0.10 |
| Tetrachloroethane, 1,1,2,2- | 0.10 |
| Tetrachloroethylene | 0.10 |
| Trichloroethane, 1,1,1- | 0.10 |
| Trichloroethane, 1,1,2- (Vinyl tric | 0.10 |
| Trichloroethylene | 0.10 |
| Vinyl chloride | 0.10 |

Soil Bioavailability (-)

| | |
|---|---|
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |

| | |
|---|---|
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |

MEDIA CONCENTRATIONS
---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Dichloroethane, 1,1- | 2.70E+04 |
| Dichloroethane, 1,2- | 6.31E+02 |
| Dichloroethylene, 1,1- | 1.24E+04 |
| Dichloroethylene, cis-1,2- | 2.70E+03 |
| Dichloroethylene, trans-1,2 | 4.60E+03 |
| Hexachloroethane | 2.70E+02 |
| Tetrachloroethane, 1,1,1,2- | 2.43E+02 |
| Tetrachloroethane, 1,1,2,2- | 32. |
| Tetrachloroethylene | 3.79E+03 |
| Trichloroethane, 1,1,1- | 1.62E+05 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.11E+02 |
| Trichloroethylene | 3.32E+03 |
| Vinyl chloride | 6.3 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichloroethane, 1,1- | ND |
| Dichloroethane, 1,2- | 1.00E-02 |
| Dichloroethylene, 1,1- | ND |
| Dichloroethylene, cis-1,2- | ND |
| Dichloroethylene, trans-1,2 | ND |
| Hexachloroethane | 1.40E-02 |
| Tetrachloroethane, 1,1,1,2- | 2.60E-02 |
| Tetrachloroethane, 1,1,2,2- | 0.20 |
| Tetrachloroethylene | ND |
| Trichloroethane, 1,1,1- | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.70E-02 |
| Trichloroethylene | 1.90E-03 |
| Vinyl chloride | 1.0 |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | ND |
| Dichloroethylene, 1,1- | 4.60E-02 |
| Dichloroethylene, cis-1,2- | 1.00E-02 |
| Dichloroethylene, trans-1,2 | 1.70E-02 |
| Hexachloroethane | 1.00E-03 |
| Tetrachloroethane, 1,1,1,2- | 3.00E-02 |
| Tetrachloroethane, 1,1,2,2- | 6.00E-02 |
| Tetrachloroethylene | 1.40E-02 |
| Trichloroethane, 1,1,1- | 0.60 |
| Trichloroethane, 1,1,2- (Vinyl tric | 4.00E-03 |
| Trichloroethylene | ND |
| Vinyl chloride | ND |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichloroethane, 1,1- | ND |
| Dichloroethane, 1,2- | 1.00E-02 |
| Dichloroethylene, 1,1- | ND |
| Dichloroethylene, cis-1,2- | ND |

| | CP Res-full |
|---|---|
| Dichloroethylene, trans-1,2 | ND |
| Hexachloroethane | 1.40E-02 |
| Tetrachloroethane, 1,1,1,2- | 2.60E-02 |
| Tetrachloroethane, 1,1,2,2- | 0.20 |
| Tetrachloroethylene | ND |
| Trichloroethane, 1,1,1- | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.70E-02 |
| Trichloroethylene | 1.90E-03 |
| Vinyl chloride | 1.0 |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | ND |
| Dichloroethylene, 1,1- | 4.60E-02 |
| Dichloroethylene, cis-1,2- | 1.00E-02 |
| Dichloroethylene, trans-1,2 | 1.70E-02 |
| Hexachloroethane | 1.00E-03 |
| Tetrachloroethane, 1,1,1,2- | 3.00E-02 |
| Tetrachloroethane, 1,1,2,2- | 6.00E-02 |
| Tetrachloroethylene | 1.40E-02 |
| Trichloroethane, 1,1,1- | 0.60 |
| Trichloroethane, 1,1,2- (Vinyl tric | 4.00E-03 |
| Trichloroethylene | ND |
| Vinyl chloride | ND |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Dichloroethane, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-02 |
| LADD (mg/kg-day) | 2.72E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.48E-03 |
| LADD (mg/kg-day) | 6.35E-04 |
| Cancer Risk (-) | 6.351E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 2.91E-02 |
| LADD (mg/kg-day) | 1.25E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.330E-01 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-03 |
| LADD (mg/kg-day) | 2.72E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | |
|---|---|
| CADD (mg/kg-day) | 1.08E-02 |
| LADD (mg/kg-day) | 4.63E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.354E-01 |

Daily Doses and Risk for : Hexachloroethane

| | |
|---|---|
| CADD (mg/kg-day) | 6.34E-04 |

| | CP Res-full |
|---|---|
| LADD (mg/kg-day) | 2.72E-04 |
| Cancer Risk (-) | 3.804E-06 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 5.71E-04 |
| LADD (mg/kg-day) | 2.45E-04 |
| Cancer Risk (-) | 6.359E-06 |
| Hazard Index (-) | 1.902E-02 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | |
|---|---|
| CADD (mg/kg-day) | 7.40E-05 |
| LADD (mg/kg-day) | 3.17E-05 |
| Cancer Risk (-) | 6.341E-06 |
| Hazard Index (-) | 1.233E-03 |

Daily Doses and Risk for : Tetrachloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 8.90E-03 |
| LADD (mg/kg-day) | 3.81E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.357E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 3.80E-01 |
| LADD (mg/kg-day) | 1.63E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 6.341E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | |
|---|---|
| CADD (mg/kg-day) | 2.61E-04 |
| LADD (mg/kg-day) | 1.12E-04 |
| Cancer Risk (-) | 6.368E-06 |
| Hazard Index (-) | 6.517E-02 |

Daily Doses and Risk for : Trichloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 7.80E-03 |
| LADD (mg/kg-day) | 3.34E-03 |
| Cancer Risk (-) | 6.349E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | |
|---|---|
| CADD (mg/kg-day) | 1.48E-05 |
| LADD (mg/kg-day) | 6.35E-06 |
| Cancer Risk (-) | 6.351E-06 |
| Hazard Index (-) | 0.000E+00 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Dichloroethane, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-02 |
| LADD (mg/kg-day) | 1.56E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 8.52E-04 |
| LADD (mg/kg-day) | 3.65E-04 |
| Cancer Risk (-) | 3.652E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 1.67E-02 |
| LADD (mg/kg-day) | 7.18E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.640E-01 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | CP Res-full |
|---|---|
| CADD (mg/kg-day) | 3.65E-03 |
| LADD (mg/kg-day) | 1.56E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | |
|---|---|
| CADD (mg/kg-day) | 6.21E-03 |
| LADD (mg/kg-day) | 2.66E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.654E-01 |

Daily Doses and Risk for : Hexachloroethane

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-04 |
| LADD (mg/kg-day) | 1.56E-04 |
| Cancer Risk (-) | 2.187E-06 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 3.28E-04 |
| LADD (mg/kg-day) | 1.41E-04 |
| Cancer Risk (-) | 3.656E-06 |
| Hazard Index (-) | 1.094E-02 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | |
|---|---|
| CADD (mg/kg-day) | 4.25E-05 |
| LADD (mg/kg-day) | 1.82E-05 |
| Cancer Risk (-) | 3.646E-06 |
| Hazard Index (-) | 7.089E-04 |

Daily Doses and Risk for : Tetrachloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 5.12E-03 |
| LADD (mg/kg-day) | 2.19E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.655E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-01 |
| LADD (mg/kg-day) | 9.37E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.646E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | |
|---|---|
| CADD (mg/kg-day) | 1.50E-04 |
| LADD (mg/kg-day) | 6.42E-05 |
| Cancer Risk (-) | 3.661E-06 |
| Hazard Index (-) | 3.747E-02 |

Daily Doses and Risk for : Trichloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 4.48E-03 |
| LADD (mg/kg-day) | 1.92E-03 |
| Cancer Risk (-) | 3.650E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | |
|---|---|
| CADD (mg/kg-day) | 8.52E-06 |
| LADD (mg/kg-day) | 3.65E-06 |
| Cancer Risk (-) | 3.652E-06 |
| Hazard Index (-) | 0.000E+00 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil | SSTLs |
|---|---|
| Receptor: Adult Resident - RME | [mg/kg] |

| | |
|---|---|
| Dichloroethane, 1,1- | 2.7E+04 |
| Dichloroethane, 1,2- | 6.3E+02 |
| Dichloroethylene, 1,1- | 1.2E+04 |
| Dichloroethylene, cis-1,2- | 2.7E+03 |
| Dichloroethylene, trans-1,2 | 4.6E+03 |
| Hexachloroethane | 2.7E+02 |
| Tetrachloroethane, 1,1,1,2- | 2.4E+02 |
| Tetrachloroethane, 1,1,2,2- | 3.2E+01 |
| Tetrachloroethylene | 3.8E+03 |
| Trichloroethane, 1,1,1- | 1.6E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 1.1E+02 |
| Trichloroethylene | 3.3E+03 |
| Vinyl chloride | 6.3E+00 |

---

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD BTEX
06/12/08 11:52

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Benzene
Ethyl benzene
Toluene
Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |
| Soil Bioavailability (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for | |

| | |
|---|---|
| Dermal Exposure to Soil (-) | |
| Benzene | 0.10 |
| Ethyl benzene | 0.10 |
| Toluene | 0.10 |
| Xylenes | 0.10 |
| Soil Bioavailability (-) | |
| Benzene | 1.0 |
| Ethyl benzene | 1.0 |
| Toluene | 1.0 |
| Xylenes | 1.0 |

MEDIA CONCENTRATIONS

| | |
|---|---|
| Concentration in Surficial Soil (mg/kg) - Used to calculate risk and hazard index. | |
| Benzene | 2.60E+02 |
| Ethyl benzene | 6.48E+03 |
| Toluene | 1.49E+04 |
| Xylenes | 1.20E+04 |

SLOPE FACTORS AND REFERENCE DOSES

| | |
|---|---|
| Ingestion Slope Factor [1/(mg/kg-day)] | |
| Benzene | 3.00E-02 |
| Ethyl benzene | ND |
| Toluene | ND |
| Xylenes | ND |
| Ingestion Reference Dose (mg/kg-day) | |
| Benzene | ND |
| Ethyl benzene | 9.70E-02 |
| Toluene | 0.22 |
| Xylenes | 0.18 |
| Dermal Slope Factor [1/(mg/kg-day)] | |
| Benzene | 3.00E-02 |
| Ethyl benzene | ND |
| Toluene | ND |
| Xylenes | ND |
| Dermal Reference Dose (mg/kg-day) | |
| Benzene | ND |
| Ethyl benzene | 9.70E-02 |
| Toluene | 0.22 |
| Xylenes | 0.18 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

| | |
|---|---|
| Daily Doses and Risk for : Benzene | |
| CADD (mg/kg-day) | 2.85E-03 |
| LADD (mg/kg-day) | 2.44E-04 |
| Cancer Risk (-) | 7.327E-06 |
| Hazard Index (-) | 0.000E+00 |
| Daily Doses and Risk for : Ethyl benzene | |
| CADD (mg/kg-day) | 7.10E-02 |
| LADD (mg/kg-day) | 6.09E-03 |

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Toluene

| | |
|---|---|
| CADD (mg/kg-day) | 1.63E-01 |
| LADD (mg/kg-day) | 1.40E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.322E-01 |

Daily Doses and Risk for : Xylenes

| | |
|---|---|
| CADD (mg/kg-day) | 1.32E-01 |
| LADD (mg/kg-day) | 1.13E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.347E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Benzene

| | |
|---|---|
| CADD (mg/kg-day) | 1.04E-03 |
| LADD (mg/kg-day) | 8.95E-05 |
| Cancer Risk (-) | 2.684E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Ethyl benzene

| | |
|---|---|
| CADD (mg/kg-day) | 2.60E-02 |
| LADD (mg/kg-day) | 2.23E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Toluene

| | |
|---|---|
| CADD (mg/kg-day) | 5.98E-02 |
| LADD (mg/kg-day) | 5.13E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Xylenes

| | |
|---|---|
| CADD (mg/kg-day) | 4.82E-02 |
| LADD (mg/kg-day) | 4.13E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.691E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Benzene | 2.6E+02 |
| Ethyl benzene | 6.5E+03 |
| Toluene | 1.5E+04 |
| Xylenes | 1.2E+04 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD ClFENOLES
06/11/08 20:22

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
- Chlorophenol, 2-
- Chlorophenol, 3-
- Chlorophenol, 4-
- Dichlorophenol, 2,3-
- Dichlorophenol, 2,4-
- Dichlorophenol, 2,5-
- Dichlorophenol, 2,6-
- Dichlorophenol, 3,4-
- Dichlorophenol, 3,5-
- Phenol
- Tetrachlorophenol, 2,3,4,5-
- Tetrachlorophenol, 2,3,4,6-
- Tetrachlorophenol, 2,3,5,6-
- Trichlorophenol, 2,3,4-
- Trichlorophenol, 2,3,5-
- Trichlorophenol, 2,3,6-
- Trichlorophenol, 2,4,5-
- Trichlorophenol, 2,4,6-
- Trichlorophenol, 3,4,5-

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |
| Soil Bioavailability (-) | |
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |

| | |
|---|---|
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |

Absorption Adjustment Factor for Dermal Exposure to Soil (-)

| | |
|---|---|
| Chlorophenol, 2- | 0.10 |
| Chlorophenol, 3- | 0.10 |
| Chlorophenol, 4- | 0.10 |
| Dichlorophenol, 2,3- | 0.10 |
| Dichlorophenol, 2,4- | 0.10 |
| Dichlorophenol, 2,5- | 0.10 |
| Dichlorophenol, 2,6- | 0.10 |
| Dichlorophenol, 3,4- | 0.10 |
| Dichlorophenol, 3,5- | 0.10 |
| Phenol | 0.10 |
| Tetrachlorophenol, 2,3,4,5- | 0.10 |
| Tetrachlorophenol, 2,3,4,6- | 0.10 |
| Tetrachlorophenol, 2,3,5,6- | 0.10 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 0.10 |
| Trichlorophenol, 3,4,5- | 0.10 |

Soil Bioavailability (-)

| | |
|---|---|
| Chlorophenol, 2- | 1.0 |
| Chlorophenol, 3- | 1.0 |
| Chlorophenol, 4- | 1.0 |
| Dichlorophenol, 2,3- | 1.0 |
| Dichlorophenol, 2,4- | 1.0 |
| Dichlorophenol, 2,5- | 1.0 |
| Dichlorophenol, 2,6- | 1.0 |
| Dichlorophenol, 3,4- | 1.0 |
| Dichlorophenol, 3,5- | 1.0 |
| Phenol | 1.0 |
| Tetrachlorophenol, 2,3,4,5- | 1.0 |
| Tetrachlorophenol, 2,3,4,6- | 1.0 |
| Tetrachlorophenol, 2,3,5,6- | 1.0 |
| Trichlorophenol, 2,3,4- | 1.0 |
| Trichlorophenol, 2,3,5- | 1.0 |
| Trichlorophenol, 2,3,6- | 1.0 |
| Trichlorophenol, 2,4,5- | 1.0 |
| Trichlorophenol, 2,4,6- | 1.0 |
| Trichlorophenol, 3,4,5- | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Chlorophenol, 2- | 3.34E+02 |
| Chlorophenol, 3- | 3.34E+02 |
| Chlorophenol, 4- | 3.34E+02 |

| | |
|---|---|
| Dichlorophenol, 2,3- | 2.00E+02 |
| Dichlorophenol, 2,4- | 2.00E+02 |
| Dichlorophenol, 2,5- | 2.00E+02 |
| Dichlorophenol, 2,6- | 67. |
| Dichlorophenol, 3,4- | 2.00E+02 |
| Dichlorophenol, 3,5- | 2.00E+02 |
| Phenol | 2.00E+04 |
| Tetrachlorophenol, 2,3,4,5- | 2.00E+03 |
| Tetrachlorophenol, 2,3,4,6- | 2.00E+03 |
| Tetrachlorophenol, 2,3,5,6- | 2.00E+03 |
| Trichlorophenol, 2,3,4- | 6.68E+03 |
| Trichlorophenol, 2,3,5- | 6.68E+03 |
| Trichlorophenol, 2,3,6- | 6.68E+03 |
| Trichlorophenol, 2,4,5- | 6.68E+03 |
| Trichlorophenol, 2,4,6- | 67. |
| Trichlorophenol, 3,4,5- | 6.68E+03 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Chlorophenol, 2- | ND |
| Chlorophenol, 3- | ND |
| Chlorophenol, 4- | ND |
| Dichlorophenol, 2,3- | ND |
| Dichlorophenol, 2,4- | ND |
| Dichlorophenol, 2,5- | ND |
| Dichlorophenol, 2,6- | ND |
| Dichlorophenol, 3,4- | ND |
| Dichlorophenol, 3,5- | ND |
| Phenol | ND |
| Tetrachlorophenol, 2,3,4,5- | ND |
| Tetrachlorophenol, 2,3,4,6- | ND |
| Tetrachlorophenol, 2,3,5,6- | ND |
| Trichlorophenol, 2,3,4- | ND |
| Trichlorophenol, 2,3,5- | ND |
| Trichlorophenol, 2,3,6- | ND |
| Trichlorophenol, 2,4,5- | ND |
| Trichlorophenol, 2,4,6- | 1.10E-02 |
| Trichlorophenol, 3,4,5- | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Chlorophenol, 2- | 5.00E-03 |
| Chlorophenol, 3- | 5.00E-03 |
| Chlorophenol, 4- | 5.00E-03 |
| Dichlorophenol, 2,3- | 3.00E-03 |
| Dichlorophenol, 2,4- | 3.00E-03 |
| Dichlorophenol, 2,5- | 3.00E-03 |
| Dichlorophenol, 2,6- | 1.00E-03 |
| Dichlorophenol, 3,4- | 3.00E-03 |
| Dichlorophenol, 3,5- | 3.00E-03 |
| Phenol | 0.30 |
| Tetrachlorophenol, 2,3,4,5- | 3.00E-02 |
| Tetrachlorophenol, 2,3,4,6- | 3.00E-02 |
| Tetrachlorophenol, 2,3,5,6- | 3.00E-02 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 1.00E-03 |
| Trichlorophenol, 3,4,5- | 0.10 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Chlorophenol, 2- | ND |
| Chlorophenol, 3- | ND |
| Chlorophenol, 4- | ND |
| Dichlorophenol, 2,3- | ND |
| Dichlorophenol, 2,4- | ND |

| | |
|---|---|
| Dichlorophenol, 2,5- | ND |
| Dichlorophenol, 2,6- | ND |
| Dichlorophenol, 3,4- | ND |
| Dichlorophenol, 3,5- | ND |
| Phenol | ND |
| Tetrachlorophenol, 2,3,4,5- | ND |
| Tetrachlorophenol, 2,3,4,6- | ND |
| Tetrachlorophenol, 2,3,5,6- | ND |
| Trichlorophenol, 2,3,4- | ND |
| Trichlorophenol, 2,3,5- | ND |
| Trichlorophenol, 2,3,6- | ND |
| Trichlorophenol, 2,4,5- | ND |
| Trichlorophenol, 2,4,6- | 1.10E-02 |
| Trichlorophenol, 3,4,5- | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Chlorophenol, 2- | 5.00E-03 |
| Chlorophenol, 3- | 5.00E-03 |
| Chlorophenol, 4- | 5.00E-03 |
| Dichlorophenol, 2,3- | 3.00E-03 |
| Dichlorophenol, 2,4- | 3.00E-03 |
| Dichlorophenol, 2,5- | 3.00E-03 |
| Dichlorophenol, 2,6- | 1.00E-03 |
| Dichlorophenol, 3,4- | 3.00E-03 |
| Dichlorophenol, 3,5- | 3.00E-03 |
| Phenol | 0.30 |
| Tetrachlorophenol, 2,3,4,5- | 3.00E-02 |
| Tetrachlorophenol, 2,3,4,6- | 3.00E-02 |
| Tetrachlorophenol, 2,3,5,6- | 3.00E-02 |
| Trichlorophenol, 2,3,4- | 0.10 |
| Trichlorophenol, 2,3,5- | 0.10 |
| Trichlorophenol, 2,3,6- | 0.10 |
| Trichlorophenol, 2,4,5- | 0.10 |
| Trichlorophenol, 2,4,6- | 1.00E-03 |
| Trichlorophenol, 3,4,5- | 0.10 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Chlorophenol, 2-

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-03 |
| LADD (mg/kg-day) | 3.14E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Chlorophenol, 3-

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-03 |
| LADD (mg/kg-day) | 3.14E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Chlorophenol, 4-

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-03 |
| LADD (mg/kg-day) | 3.14E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 1.88E-04 |

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 1.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 1.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,6-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-04 |
| LADD (mg/kg-day) | 6.27E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 1.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-03 |
| LADD (mg/kg-day) | 1.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Phenol

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-01 |
| LADD (mg/kg-day) | 1.88E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 1.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 1.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,5,6-

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 1.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,6-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-04 |
| LADD (mg/kg-day) | 6.27E-05 |
| Cancer Risk (-) | 6.902E-07 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Trichlorophenol, 3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Chlorophenol, 2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-03 |
| LADD (mg/kg-day) | 1.15E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Chlorophenol, 3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-03 |
| LADD (mg/kg-day) | 1.15E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Chlorophenol, 4-

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-03 |
| LADD (mg/kg-day) | 1.15E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-04 |
| LADD (mg/kg-day) | 6.88E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-04 |
| LADD (mg/kg-day) | 6.88E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,5-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-04 |
| LADD (mg/kg-day) | 6.88E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Dichlorophenol, 2,6-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-04 |
| LADD (mg/kg-day) | 2.30E-05 |
| Cancer Risk (-) | 0.000E+00 |

| | |
|---|---|
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-04 |
| LADD (mg/kg-day) | 6.88E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Dichlorophenol, 3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-04 |
| LADD (mg/kg-day) | 6.88E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Phenol

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-02 |
| LADD (mg/kg-day) | 6.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-03 |
| LADD (mg/kg-day) | 6.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-03 |
| LADD (mg/kg-day) | 6.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Tetrachlorophenol, 2,3,5,6-

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-03 |
| LADD (mg/kg-day) | 6.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,4-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,3,6-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Trichlorophenol, 2,4,6-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-04 |
| LADD (mg/kg-day) | 2.30E-05 |
| Cancer Risk (-) | 2.528E-07 |
| Hazard Index (-) | 2.682E-01 |

CP Res-full

Daily Doses and Risk for : Trichlorophenol, 3,4,5-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Chlorophenol, 2- | 3.3E+02 |
| Chlorophenol, 3- | 3.3E+02 |
| Chlorophenol, 4- | 3.3E+02 |
| Dichlorophenol, 2,3- | 2.0E+02 |
| Dichlorophenol, 2,4- | 2.0E+02 |
| Dichlorophenol, 2,5- | 2.0E+02 |
| Dichlorophenol, 2,6- | 6.7E+01 |
| Dichlorophenol, 3,4- | 2.0E+02 |
| Dichlorophenol, 3,5- | 2.0E+02 |
| Phenol | 2.0E+04 |
| Tetrachlorophenol, 2,3,4,5- | 2.0E+03 |
| Tetrachlorophenol, 2,3,4,6- | 2.0E+03 |
| Tetrachlorophenol, 2,3,5,6- | 2.0E+03 |
| Trichlorophenol, 2,3,4- | 6.7E+03 |
| Trichlorophenol, 2,3,5- | 6.7E+03 |
| Trichlorophenol, 2,3,6- | 6.7E+03 |
| Trichlorophenol, 2,4,5- | 6.7E+03 |
| Trichlorophenol, 2,4,6- | 6.7E+01 |
| Trichlorophenol, 3,4,5- | 6.7E+03 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD DD´s
06/12/08 11:53

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
DDD
DDE
DDT

| SUMMARY OF INPUT PARAMETERS | SCENARIO:<br>1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for | |

| | |
|---|---|
| Ingestion of Soil (-) | |
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |
| Soil Bioavailability (-) | |
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| DDD | 3.00E-02 |
| DDE | 3.00E-02 |
| DDT | 3.00E-02 |
| Soil Bioavailability (-) | |
| DDD | 1.0 |
| DDE | 1.0 |
| DDT | 1.0 |

MEDIA CONCENTRATIONS

---

| | |
|---|---|
| Concentration in Surficial Soil (mg/kg) - Used to calculate risk and hazard index. | |
| DDD | 40. |
| DDE | 28. |
| DDT | 28. |

SLOPE FACTORS AND REFERENCE DOSES

---

| | |
|---|---|
| Ingestion Slope Factor [1/(mg/kg-day)] | |
| DDD | 0.24 |
| DDE | 0.34 |
| DDT | 0.34 |
| Ingestion Reference Dose (mg/kg-day) | |
| DDD | 1.00E-02 |
| DDE | 1.00E-02 |
| DDT | 1.00E-02 |
| Dermal Slope Factor [1/(mg/kg-day)] | |
| DDD | 0.24 |
| DDE | 0.34 |
| DDT | 0.34 |
| Dermal Reference Dose (mg/kg-day) | |
| DDD | 1.00E-02 |
| DDE | 1.00E-02 |
| DDT | 1.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : DDD

| | |
|---|---|
| CADD (mg/kg-day) | 4.38E-04 |
| LADD (mg/kg-day) | 3.76E-05 |
| Cancer Risk (-) | 9.018E-06 |
| Hazard Index (-) | 4.384E-02 |

Daily Doses and Risk for : DDE

| | |
|---|---|
| CADD (mg/kg-day) | 3.09E-04 |
| LADD (mg/kg-day) | 2.65E-05 |
| Cancer Risk (-) | 9.006E-06 |
| Hazard Index (-) | 3.090E-02 |

Daily Doses and Risk for : DDT

| | |
|---|---|
| CADD (mg/kg-day) | 3.09E-04 |
| LADD (mg/kg-day) | 2.65E-05 |
| Cancer Risk (-) | 9.006E-06 |
| Hazard Index (-) | 3.090E-02 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : DDD

| | |
|---|---|
| CADD (mg/kg-day) | 4.82E-05 |
| LADD (mg/kg-day) | 4.13E-06 |
| Cancer Risk (-) | 9.909E-07 |
| Hazard Index (-) | 4.817E-03 |

Daily Doses and Risk for : DDE

| | |
|---|---|
| CADD (mg/kg-day) | 3.40E-05 |
| LADD (mg/kg-day) | 2.91E-06 |
| Cancer Risk (-) | 9.897E-07 |
| Hazard Index (-) | 3.396E-03 |

Daily Doses and Risk for : DDT

| | |
|---|---|
| CADD (mg/kg-day) | 3.40E-05 |
| LADD (mg/kg-day) | 2.91E-06 |
| Cancer Risk (-) | 9.897E-07 |
| Hazard Index (-) | 3.396E-03 |

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Surface Soil — Receptor: Child Resident - RME

| | SSTLs [mg/kg] |
|---|---|
| DDD | 4.0E+01 |
| DDE | 2.8E+01 |
| DDT | 2.8E+01 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD metales
06/10/08 17:46

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
- Aluminum
- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium (III)
- Chromium (VI)
- Chromium (total)
- Cobalt
- Copper
- Lead (inorganic)
- Manganese
- Mercury, elemental
- Nickel (soluble salts)
- Selenium
- Tin
- Vanadium
- Zinc

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |
| Soil Bioavailability (-) | |
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |

| | |
|---|---|
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |

DERMAL CONTACT WITH SOIL

| | |
|---|---|
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |

Absorption Adjustment Factor for Dermal Exposure to Soil (-)

| | |
|---|---|
| Aluminum | 0.10 |
| Antimony | 0.10 |
| Arsenic | 3.00E-02 |
| Barium | 3.00E-02 |
| Beryllium | 1.00E-02 |
| Cadmium | 1.00E-03 |
| Chromium (III) | 1.00E-02 |
| Chromium (VI) | 1.00E-02 |
| Chromium (total) | 1.00E-02 |
| Cobalt | 0.10 |
| Copper | 1.00E-02 |
| Lead (inorganic) | 1.00E-02 |
| Manganese | 0.10 |
| Mercury, elemental | 0.10 |
| Nickel (soluble salts) | 1.00E-02 |
| Selenium | 1.00E-02 |
| Tin | 0.10 |
| Vanadium | 1.00E-02 |
| Zinc | 1.00E-02 |

Soil Bioavailability (-)

| | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 1.0 |
| Arsenic | 1.0 |
| Barium | 1.0 |
| Beryllium | 1.0 |
| Cadmium | 1.0 |
| Chromium (III) | 1.0 |
| Chromium (VI) | 1.0 |
| Chromium (total) | 1.0 |
| Cobalt | 1.0 |
| Copper | 1.0 |
| Lead (inorganic) | 1.0 |
| Manganese | 1.0 |
| Mercury, elemental | 1.0 |
| Nickel (soluble salts) | 1.0 |
| Selenium | 1.0 |
| Tin | 1.0 |
| Vanadium | 1.0 |
| Zinc | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Aluminum | 6.68E+04 |
| Antimony | 4.01E+02 |
| Arsenic | 5.4 |
| Barium | 5.4 |
| Beryllium | 1.76E+02 |
| Cadmium | 9.1 |
| Chromium (III) | 1.32E+05 |

| | |
|---|---|
| Chromium (VI) | 2.64E+02 |
| Chromium (total) | 1.46E+02 |
| Cobalt | 94. |
| Copper | 5.81E+03 |
| Lead (inorganic) | 3.08E+02 |
| Manganese | 3.14E+03 |
| Mercury, elemental | 1.34E+02 |
| Nickel (soluble salts) | 1.06E+03 |
| Selenium | 3.52E+02 |
| Tin | 4.01E+04 |
| Vanadium | 88. |
| Zinc | 2.64E+04 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Aluminum | ND |
| Antimony | ND |
| Arsenic | 1.8 |
| Barium | 1.8 |
| Beryllium | ND |
| Cadmium | ND |
| Chromium (III) | ND |
| Chromium (VI) | ND |
| Chromium (total) | ND |
| Cobalt | ND |
| Copper | ND |
| Lead (inorganic) | ND |
| Manganese | ND |
| Mercury, elemental | ND |
| Nickel (soluble salts) | ND |
| Selenium | ND |
| Tin | ND |
| Vanadium | ND |
| Zinc | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 6.00E-03 |
| Arsenic | ND |
| Barium | ND |
| Beryllium | 2.00E-03 |
| Cadmium | 1.00E-04 |
| Chromium (III) | 1.5 |
| Chromium (VI) | 3.00E-03 |
| Chromium (total) | 1.66E-03 |
| Cobalt | 1.40E-03 |
| Copper | 6.60E-02 |
| Lead (inorganic) | 3.50E-03 |
| Manganese | 4.70E-02 |
| Mercury, elemental | 2.00E-03 |
| Nickel (soluble salts) | 1.20E-02 |
| Selenium | 4.00E-03 |
| Tin | 0.60 |
| Vanadium | 1.00E-03 |
| Zinc | 0.30 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Aluminum | ND |
| Antimony | ND |
| Arsenic | 1.8 |
| Barium | 1.8 |
| Beryllium | ND |
| Cadmium | ND |
| Chromium (III) | ND |
| Chromium (VI) | ND |
| Chromium (total) | ND |

| | |
|---|---|
| Cobalt | ND |
| Copper | ND |
| Lead (inorganic) | ND |
| Manganese | ND |
| Mercury, elemental | ND |
| Nickel (soluble salts) | ND |
| Selenium | ND |
| Tin | ND |
| Vanadium | ND |
| Zinc | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Aluminum | 1.0 |
| Antimony | 6.00E-03 |
| Arsenic | ND |
| Barium | ND |
| Beryllium | 2.00E-03 |
| Cadmium | 1.00E-04 |
| Chromium (III) | 1.5 |
| Chromium (VI) | 3.00E-03 |
| Chromium (total) | 1.66E-03 |
| Cobalt | 1.40E-03 |
| Copper | 6.60E-02 |
| Lead (inorganic) | 3.50E-03 |
| Manganese | 4.70E-02 |
| Mercury, elemental | 2.00E-03 |
| Nickel (soluble salts) | 1.20E-02 |
| Selenium | 4.00E-03 |
| Tin | 0.60 |
| Vanadium | 1.00E-03 |
| Zinc | 0.30 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Aluminum

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-01 |
| LADD (mg/kg-day) | 6.27E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Antimony

| | |
|---|---|
| CADD (mg/kg-day) | 4.39E-03 |
| LADD (mg/kg-day) | 3.77E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.324E-01 |

Daily Doses and Risk for : Arsenic

| | |
|---|---|
| CADD (mg/kg-day) | 5.97E-05 |
| LADD (mg/kg-day) | 5.12E-06 |
| Cancer Risk (-) | 9.010E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Barium

| | |
|---|---|
| CADD (mg/kg-day) | 5.97E-05 |
| LADD (mg/kg-day) | 5.12E-06 |
| Cancer Risk (-) | 9.010E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Beryllium

| | CP Res-full |
|---|---|
| CADD (mg/kg-day) | 1.93E-03 |
| LADD (mg/kg-day) | 1.65E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Cadmium

| | |
|---|---|
| CADD (mg/kg-day) | 9.96E-05 |
| LADD (mg/kg-day) | 8.54E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.962E-01 |

Daily Doses and Risk for : Chromium (III)

| | |
|---|---|
| CADD (mg/kg-day) | 1.45E+00 |
| LADD (mg/kg-day) | 1.24E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Chromium (VI)

| | |
|---|---|
| CADD (mg/kg-day) | 2.89E-03 |
| LADD (mg/kg-day) | 2.48E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Chromium (total)

| | |
|---|---|
| CADD (mg/kg-day) | 1.60E-03 |
| LADD (mg/kg-day) | 1.37E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.639E-01 |

Daily Doses and Risk for : Cobalt

| | |
|---|---|
| CADD (mg/kg-day) | 1.02E-03 |
| LADD (mg/kg-day) | 8.78E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.319E-01 |

Daily Doses and Risk for : Copper

| | |
|---|---|
| CADD (mg/kg-day) | 6.37E-02 |
| LADD (mg/kg-day) | 5.46E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.647E-01 |

Daily Doses and Risk for : Lead (inorganic)

| | |
|---|---|
| CADD (mg/kg-day) | 3.38E-03 |
| LADD (mg/kg-day) | 2.89E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Manganese

| | |
|---|---|
| CADD (mg/kg-day) | 3.44E-02 |
| LADD (mg/kg-day) | 2.95E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Mercury, elemental

| | |
|---|---|
| CADD (mg/kg-day) | 1.47E-03 |
| LADD (mg/kg-day) | 1.26E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.342E-01 |

Daily Doses and Risk for : Nickel (soluble salts)

| | |
|---|---|
| CADD (mg/kg-day) | 1.16E-02 |
| LADD (mg/kg-day) | 9.96E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.680E-01 |

Daily Doses and Risk for : Selenium

| | |
|---|---|
| CADD (mg/kg-day) | 3.86E-03 |
| LADD (mg/kg-day) | 3.31E-04 |

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Tin

| | |
|---|---|
| CADD (mg/kg-day) | 4.39E-01 |
| LADD (mg/kg-day) | 3.77E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.324E-01 |

Daily Doses and Risk for : Vanadium

| | |
|---|---|
| CADD (mg/kg-day) | 9.64E-04 |
| LADD (mg/kg-day) | 8.27E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

Daily Doses and Risk for : Zinc

| | |
|---|---|
| CADD (mg/kg-day) | 2.89E-01 |
| LADD (mg/kg-day) | 2.48E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.644E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Aluminum

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-01 |
| LADD (mg/kg-day) | 2.30E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Antimony

| | |
|---|---|
| CADD (mg/kg-day) | 1.61E-03 |
| LADD (mg/kg-day) | 1.38E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.683E-01 |

Daily Doses and Risk for : Arsenic

| | |
|---|---|
| CADD (mg/kg-day) | 6.56E-06 |
| LADD (mg/kg-day) | 5.63E-07 |
| Cancer Risk (-) | 9.901E-07 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Barium

| | |
|---|---|
| CADD (mg/kg-day) | 6.56E-06 |
| LADD (mg/kg-day) | 5.63E-07 |
| Cancer Risk (-) | 9.901E-07 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Beryllium

| | |
|---|---|
| CADD (mg/kg-day) | 7.07E-05 |
| LADD (mg/kg-day) | 6.06E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Cadmium

| | |
|---|---|
| CADD (mg/kg-day) | 3.65E-07 |
| LADD (mg/kg-day) | 3.13E-08 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.649E-03 |

Daily Doses and Risk for : Chromium (III)

| | |
|---|---|
| CADD (mg/kg-day) | 5.30E-02 |
| LADD (mg/kg-day) | 4.54E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Chromium (VI)

| | |
|---|---|
| CADD (mg/kg-day) | 1.06E-04 |

| | CP Res-full |
|---|---|
| LADD (mg/kg-day) | 9.08E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Chromium (total)

| | |
|---|---|
| CADD (mg/kg-day) | 5.86E-05 |
| LADD (mg/kg-day) | 5.02E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.531E-02 |

Daily Doses and Risk for : Cobalt

| | |
|---|---|
| CADD (mg/kg-day) | 3.75E-04 |
| LADD (mg/kg-day) | 3.22E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.681E-01 |

Daily Doses and Risk for : Copper

| | |
|---|---|
| CADD (mg/kg-day) | 2.33E-03 |
| LADD (mg/kg-day) | 2.00E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.534E-02 |

Daily Doses and Risk for : Lead (inorganic)

| | |
|---|---|
| CADD (mg/kg-day) | 1.24E-04 |
| LADD (mg/kg-day) | 1.06E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Manganese

| | |
|---|---|
| CADD (mg/kg-day) | 1.26E-02 |
| LADD (mg/kg-day) | 1.08E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Mercury, elemental

| | |
|---|---|
| CADD (mg/kg-day) | 5.38E-04 |
| LADD (mg/kg-day) | 4.61E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.690E-01 |

Daily Doses and Risk for : Nickel (soluble salts)

| | |
|---|---|
| CADD (mg/kg-day) | 4.26E-04 |
| LADD (mg/kg-day) | 3.65E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.546E-02 |

Daily Doses and Risk for : Selenium

| | |
|---|---|
| CADD (mg/kg-day) | 1.41E-04 |
| LADD (mg/kg-day) | 1.21E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Tin

| | |
|---|---|
| CADD (mg/kg-day) | 1.61E-01 |
| LADD (mg/kg-day) | 1.38E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.683E-01 |

Daily Doses and Risk for : Vanadium

| | |
|---|---|
| CADD (mg/kg-day) | 3.53E-05 |
| LADD (mg/kg-day) | 3.03E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.533E-02 |

Daily Doses and Risk for : Zinc

| | |
|---|---|
| CADD (mg/kg-day) | 1.06E-02 |
| LADD (mg/kg-day) | 9.08E-04 |
| Cancer Risk (-) | 0.000E+00 |

| | CP Res-full |
|---|---|
| Hazard Index (-) | 3.533E-02 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Aluminum | 6.7E+04 |
| Antimony | 4.0E+02 |
| Arsenic | 5.5E+00 |
| Barium | 5.5E+00 |
| Beryllium | 1.8E+02 |
| Cadmium | 9.1E+00 |
| Chromium (III) | 1.3E+05 |
| Chromium (VI) | 2.6E+02 |
| Chromium (total) | 1.5E+02 |
| Cobalt | 9.4E+01 |
| Copper | 5.8E+03 |
| Lead (inorganic) | 3.1E+02 |
| Manganese | 3.1E+03 |
| Mercury, elemental | 1.3E+02 |
| Nickel (soluble salts) | 1.1E+03 |
| Selenium | 3.5E+02 |
| Tin | 4.0E+04 |
| Vanadium | 8.8E+01 |
| Zinc | 2.6E+04 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD PAH
06/10/08 18:58

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Acenaphthene
Acenaphthylene
Anthracene
Benz-a-anthracene
Benzo-a-pyrene
Benzo-b-fluoranthene
Benzo-g,h,i-perylene
Benzo-k-fluoranthene
Chrysene
Dibenz-a,h-anthracene
Fluoranthene
Fluorene
Indeno-1,2,3-cd-pyrene
Phenanthrene

| SUMMARY OF INPUT PARAMETERS | SCENARIO:<br>1 |
|---|---|

LIFETIME AND BODY WEIGHT

| | |
|---|---|
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.10E+11 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |
| Soil Bioavailability (-) | |
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.0 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Acenaphthene | 0.10 |
| Acenaphthylene | 0.10 |
| Anthracene | 0.10 |
| Benz-a-anthracene | 0.10 |
| Benzo-a-pyrene | 0.10 |
| Benzo-b-fluoranthene | 0.10 |
| Benzo-g,h,i-perylene | 0.10 |
| Benzo-k-fluoranthene | 0.10 |
| Chrysene | 0.13 |
| Dibenz-a,h-anthracene | 0.10 |
| Fluoranthene | 0.10 |
| Fluorene | 0.10 |
| Indeno-1,2,3-cd-pyrene | 0.13 |
| Phenanthrene | 0.13 |
| Soil Bioavailability (-) | |
| Acenaphthene | 1.0 |
| Acenaphthylene | 1.0 |
| Anthracene | 1.0 |
| Benz-a-anthracene | 1.0 |

| | |
|---|---|
| Benzo-a-pyrene | 1.0 |
| Benzo-b-fluoranthene | 1.0 |
| Benzo-g,h,i-perylene | 1.0 |
| Benzo-k-fluoranthene | 1.0 |
| Chrysene | 1.0 |
| Dibenz-a,h-anthracene | 1.0 |
| Fluoranthene | 1.0 |
| Fluorene | 1.0 |
| Indeno-1,2,3-cd-pyrene | 1.0 |
| Phenanthrene | 1.0 |

MEDIA CONCENTRATIONS
---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Acenaphthene | 4.01E+03 |
| Acenaphthylene | 4.01E+03 |
| Anthracene | 2.00E+04 |
| Benz-a-anthracene | 11. |
| Benzo-a-pyrene | 3.3 |
| Benzo-b-fluoranthene | 11. |
| Benzo-g,h,i-perylene | 2.00E+03 |
| Benzo-k-fluoranthene | 1.07E+02 |
| Chrysene | 9.88E+02 |
| Dibenz-a,h-anthracene | 1.33E-11 |
| Fluoranthene | 2.67E+03 |
| Fluorene | 2.67E+03 |
| Indeno-1,2,3-cd-pyrene | 9.9 |
| Phenanthrene | 1.85E+03 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Acenaphthene | ND |
| Acenaphthylene | ND |
| Anthracene | ND |
| Benz-a-anthracene | 0.73 |
| Benzo-a-pyrene | 2.3 |
| Benzo-b-fluoranthene | 0.73 |
| Benzo-g,h,i-perylene | ND |
| Benzo-k-fluoranthene | 7.30E-02 |
| Chrysene | 7.30E-03 |
| Dibenz-a,h-anthracene | 7.3 |
| Fluoranthene | ND |
| Fluorene | ND |
| Indeno-1,2,3-cd-pyrene | 0.73 |
| Phenanthrene | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Acenaphthene | 6.00E-02 |
| Acenaphthylene | 6.00E-02 |
| Anthracene | 0.30 |
| Benz-a-anthracene | ND |
| Benzo-a-pyrene | ND |
| Benzo-b-fluoranthene | ND |
| Benzo-g,h,i-perylene | 3.00E-02 |
| Benzo-k-fluoranthene | ND |
| Chrysene | ND |
| Dibenz-a,h-anthracene | ND |
| Fluoranthene | 4.00E-02 |
| Fluorene | 4.00E-02 |
| Indeno-1,2,3-cd-pyrene | ND |
| Phenanthrene | 3.00E-02 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Acenaphthene | ND |
| Acenaphthylene | ND |

| | |
|---|---|
| Anthracene | ND |
| Benz-a-anthracene | 0.73 |
| Benzo-a-pyrene | 2.3 |
| Benzo-b-fluoranthene | 0.73 |
| Benzo-g,h,i-perylene | ND |
| Benzo-k-fluoranthene | 7.30E-02 |
| Chrysene | 7.30E-03 |
| Dibenz-a,h-anthracene | 7.3 |
| Fluoranthene | ND |
| Fluorene | ND |
| Indeno-1,2,3-cd-pyrene | 0.73 |
| Phenanthrene | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Acenaphthene | 6.00E-02 |
| Acenaphthylene | 6.00E-02 |
| Anthracene | 0.30 |
| Benz-a-anthracene | ND |
| Benzo-a-pyrene | ND |
| Benzo-b-fluoranthene | ND |
| Benzo-g,h,i-perylene | 3.00E-02 |
| Benzo-k-fluoranthene | ND |
| Chrysene | ND |
| Dibenz-a,h-anthracene | ND |
| Fluoranthene | 4.00E-02 |
| Fluorene | 4.00E-02 |
| Indeno-1,2,3-cd-pyrene | ND |
| Phenanthrene | 3.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Acenaphthene

| | |
|---|---|
| CADD (mg/kg-day) | 4.39E-02 |
| LADD (mg/kg-day) | 3.77E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.324E-01 |

Daily Doses and Risk for : Acenaphthylene

| | |
|---|---|
| CADD (mg/kg-day) | 4.39E-02 |
| LADD (mg/kg-day) | 3.77E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.324E-01 |

Daily Doses and Risk for : Anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-01 |
| LADD (mg/kg-day) | 1.88E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.306E-01 |

Daily Doses and Risk for : Benz-a-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 1.17E-04 |
| LADD (mg/kg-day) | 1.01E-05 |
| Cancer Risk (-) | 7.337E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-05 |
| LADD (mg/kg-day) | 3.14E-06 |
| Cancer Risk (-) | 7.310E-06 |

Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Benzo-b-fluoranthene
CADD (mg/kg-day) 1.17E-04
LADD (mg/kg-day) 1.01E-05
Cancer Risk (-) 7.337E-06
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Benzo-g,h,i-perylene
CADD (mg/kg-day) 2.19E-02
LADD (mg/kg-day) 1.88E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.306E-01

Daily Doses and Risk for : Benzo-k-fluoranthene
CADD (mg/kg-day) 1.17E-03
LADD (mg/kg-day) 1.01E-04
Cancer Risk (-) 7.337E-06
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Chrysene
CADD (mg/kg-day) 1.08E-02
LADD (mg/kg-day) 9.28E-04
Cancer Risk (-) 6.775E-06
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Dibenz-a,h-anthracene
CADD (mg/kg-day) 1.60E-05
LADD (mg/kg-day) 1.37E-06
Cancer Risk (-) 1.003E-05
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Fluoranthene
CADD (mg/kg-day) 2.93E-02
LADD (mg/kg-day) 2.51E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.315E-01

Daily Doses and Risk for : Fluorene
CADD (mg/kg-day) 2.93E-02
LADD (mg/kg-day) 2.51E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.315E-01

Daily Doses and Risk for : Indeno-1,2,3-cd-pyrene
CADD (mg/kg-day) 1.08E-04
LADD (mg/kg-day) 9.28E-06
Cancer Risk (-) 6.775E-06
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Phenanthrene
CADD (mg/kg-day) 2.03E-02
LADD (mg/kg-day) 1.74E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 6.758E-01

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Acenaphthene
CADD (mg/kg-day) 1.61E-02
LADD (mg/kg-day) 1.38E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 2.683E-01

Daily Doses and Risk for : Acenaphthylene
CADD (mg/kg-day) 1.61E-02
LADD (mg/kg-day) 1.38E-03

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.683E-01 |

Daily Doses and Risk for : Anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-02 |
| LADD (mg/kg-day) | 6.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Benz-a-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 4.30E-05 |
| LADD (mg/kg-day) | 3.68E-06 |
| Cancer Risk (-) | 2.688E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-05 |
| LADD (mg/kg-day) | 1.15E-06 |
| Cancer Risk (-) | 2.678E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-b-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 4.30E-05 |
| LADD (mg/kg-day) | 3.68E-06 |
| Cancer Risk (-) | 2.688E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-g,h,i-perylene

| | |
|---|---|
| CADD (mg/kg-day) | 8.03E-03 |
| LADD (mg/kg-day) | 6.88E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.676E-01 |

Daily Doses and Risk for : Benzo-k-fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 4.30E-04 |
| LADD (mg/kg-day) | 3.68E-05 |
| Cancer Risk (-) | 2.688E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Chrysene

| | |
|---|---|
| CADD (mg/kg-day) | 5.16E-03 |
| LADD (mg/kg-day) | 4.42E-04 |
| Cancer Risk (-) | 3.226E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dibenz-a,h-anthracene

| | |
|---|---|
| CADD (mg/kg-day) | 5.34E-17 |
| LADD (mg/kg-day) | 4.58E-18 |
| Cancer Risk (-) | 3.341E-17 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Fluoranthene

| | |
|---|---|
| CADD (mg/kg-day) | 1.07E-02 |
| LADD (mg/kg-day) | 9.19E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.680E-01 |

Daily Doses and Risk for : Fluorene

| | |
|---|---|
| CADD (mg/kg-day) | 1.07E-02 |
| LADD (mg/kg-day) | 9.19E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.680E-01 |

Daily Doses and Risk for : Indeno-1,2,3-cd-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 5.16E-05 |
| LADD (mg/kg-day) | 4.42E-06 |
| Cancer Risk (-) | 3.226E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Phenanthrene

| | |
|---|---|
| CADD (mg/kg-day) | 9.65E-03 |
| LADD (mg/kg-day) | 8.28E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 3.218E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs [mg/kg] |
|---|---|
| Acenaphthene | 4.0E+03 |
| Acenaphthylene | 4.0E+03 |
| Anthracene | 2.0E+04 |
| Benz-a-anthracene | 1.1E+01 |
| Benzo-a-pyrene | 3.3E+00 |
| Benzo-b-fluoranthene | 1.1E+01 |
| Benzo-g,h,i-perylene | 2.0E+03 |
| Benzo-k-fluoranthene | 1.1E+02 |
| Chrysene | 9.9E+02 |
| Dibenz-a,h-anthracene | 1.3E-11 |
| Fluoranthene | 2.7E+03 |
| Fluorene | 2.7E+03 |
| Indeno-1,2,3-cd-pyrene | 9.9E+00 |
| Phenanthrene | 1.9E+03 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD VARIOS
06/11/08 20:32

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Biphenyl, 1,1-
Bis (2-ethyl-hexyl) phthalate
Butyl benzyl phthalate
Carbon tetrachloride (Tetrachlorome
Chlorpyrifos
Cresol, m- (3-methylphenol)
Cresol, o- (2-methylphenol)
Cresol, p- (4-methylphenol)
Cymene (isopropyltoluene)
Diethyl phthalate
Endrin
Hexane, n-
Isoamyl alcohol
Isopropyl alcohol
Malathion

SUMMARY OF INPUT PARAMETERS SCENARIO: 1

LIFETIME AND BODY WEIGHT

| | |
|---|---|
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Biphenyl, 1,1- | 1.0 |
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachlorome | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |
| Soil Bioavailability (-) | |
| Biphenyl, 1,1- | 1.0 |
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachl | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Biphenyl, 1,1- | 0.10 |
| Bis (2-ethyl-hexyl) phthalate | 0.10 |
| Butyl benzyl phthalate | 0.10 |
| Carbon tetrachloride (Tetrachlorome | 0.10 |
| Chlorpyrifos | 0.10 |
| Cresol, m- (3-methylphenol) | 0.10 |
| Cresol, o- (2-methylphenol) | 0.10 |
| Cresol, p- (4-methylphenol) | 0.10 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.10 |
| Endrin | 0.10 |
| Hexane, n- | 0.10 |
| Isoamyl alcohol | 0.10 |
| Isopropyl alcohol | 0.10 |
| Malathion | 0.10 |
| Soil Bioavailability (-) | |
| Biphenyl, 1,1- | 1.0 |

| | |
|---|---|
| Bis (2-ethyl-hexyl) phthalate | 1.0 |
| Butyl benzyl phthalate | 1.0 |
| Carbon tetrachloride (Tetrachl | 1.0 |
| Chlorpyrifos | 1.0 |
| Cresol, m- (3-methylphenol) | 1.0 |
| Cresol, o- (2-methylphenol) | 1.0 |
| Cresol, p- (4-methylphenol) | 1.0 |
| Cymene (isopropyltoluene) | 1.0 |
| Diethyl phthalate | 1.0 |
| Endrin | 1.0 |
| Hexane, n- | 1.0 |
| Isoamyl alcohol | 1.0 |
| Isopropyl alcohol | 1.0 |
| Malathion | 1.0 |

MEDIA CONCENTRATIONS
---

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Biphenyl, 1,1- | 3.34E+03 |
| Bis (2-ethyl-hexyl) phthalate | 5.57E+02 |
| Butyl benzyl phthalate | 1.34E+04 |
| Carbon tetrachloride (Tetrachlorome | 60. |
| Chlorpyrifos | 6.68E+02 |
| Cresol, m- (3-methylphenol) | 3.34E+03 |
| Cresol, o- (2-methylphenol) | 3.34E+03 |
| Cresol, p- (4-methylphenol) | 3.34E+02 |
| Cymene (isopropyltoluene) | 6.68E+03 |
| Diethyl phthalate | 5.34E+04 |
| Endrin | 13. |
| Hexane, n- | 7.35E+05 |
| Isoamyl alcohol | 3.34E+02 |
| Isopropyl alcohol | 1.34E+04 |
| Malathion | 1.34E+03 |

SLOPE FACTORS AND REFERENCE DOSES
---

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Biphenyl, 1,1- | ND |
| Bis (2-ethyl-hexyl) phthalate | 1.40E-02 |
| Butyl benzyl phthalate | ND |
| Carbon tetrachloride (Tetrachlorome | 0.13 |
| Chlorpyrifos | ND |
| Cresol, m- (3-methylphenol) | ND |
| Cresol, o- (2-methylphenol) | ND |
| Cresol, p- (4-methylphenol) | ND |
| Cymene (isopropyltoluene) | ND |
| Diethyl phthalate | ND |
| Endrin | ND |
| Hexane, n- | ND |
| Isoamyl alcohol | ND |
| Isopropyl alcohol | ND |
| Malathion | ND |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Biphenyl, 1,1- | 5.00E-02 |
| Bis (2-ethyl-hexyl) phthalate | 2.50E-02 |
| Butyl benzyl phthalate | 0.20 |
| Carbon tetrachloride (Tetrachlorome | 1.40E-03 |
| Chlorpyrifos | 1.00E-02 |
| Cresol, m- (3-methylphenol) | 5.00E-02 |
| Cresol, o- (2-methylphenol) | 5.00E-02 |
| Cresol, p- (4-methylphenol) | 5.00E-03 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.80 |
| Endrin | 2.00E-04 |
| Hexane, n- | 11. |

| | |
|---|---|
| Isoamyl alcohol | 5.00E-03 |
| Isopropyl alcohol | 0.20 |
| Malathion | 2.00E-02 |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Biphenyl, 1,1- | ND |
| Bis (2-ethyl-hexyl) phthalate | 1.40E-02 |
| Butyl benzyl phthalate | ND |
| Carbon tetrachloride (Tetrachlorome | 0.13 |
| Chlorpyrifos | ND |
| Cresol, m- (3-methylphenol) | ND |
| Cresol, o- (2-methylphenol) | ND |
| Cresol, p- (4-methylphenol) | ND |
| Cymene (isopropyltoluene) | ND |
| Diethyl phthalate | ND |
| Endrin | ND |
| Hexane, n- | ND |
| Isoamyl alcohol | ND |
| Isopropyl alcohol | ND |
| Malathion | ND |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Biphenyl, 1,1- | 5.00E-02 |
| Bis (2-ethyl-hexyl) phthalate | 2.50E-02 |
| Butyl benzyl phthalate | 0.20 |
| Carbon tetrachloride (Tetrachlorome | 1.40E-03 |
| Chlorpyrifos | 1.00E-02 |
| Cresol, m- (3-methylphenol) | 5.00E-02 |
| Cresol, o- (2-methylphenol) | 5.00E-02 |
| Cresol, p- (4-methylphenol) | 5.00E-03 |
| Cymene (isopropyltoluene) | 0.10 |
| Diethyl phthalate | 0.80 |
| Endrin | 2.00E-04 |
| Hexane, n- | 11. |
| Isoamyl alcohol | 5.00E-03 |
| Isopropyl alcohol | 0.20 |
| Malathion | 2.00E-02 |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Biphenyl, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-02 |
| LADD (mg/kg-day) | 3.14E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Bis (2-ethyl-hexyl) phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 6.10E-03 |
| LADD (mg/kg-day) | 5.23E-04 |
| Cancer Risk (-) | 7.325E-06 |
| Hazard Index (-) | 2.442E-01 |

Daily Doses and Risk for : Butyl benzyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 1.47E-01 |
| LADD (mg/kg-day) | 1.26E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.342E-01 |

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | |
|---|---|
| CADD (mg/kg-day) | 6.56E-04 |
| LADD (mg/kg-day) | 5.63E-05 |
| Cancer Risk (-) | 7.315E-06 |
| Hazard Index (-) | 4.689E-01 |

Daily Doses and Risk for : Chlorpyrifos

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-03 |
| LADD (mg/kg-day) | 6.27E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Cresol, m- (3-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-02 |
| LADD (mg/kg-day) | 3.14E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Cresol, o- (2-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-02 |
| LADD (mg/kg-day) | 3.14E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Cresol, p- (4-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-03 |
| LADD (mg/kg-day) | 3.14E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Cymene (isopropyltoluene)

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Diethyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 5.85E-01 |
| LADD (mg/kg-day) | 5.02E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.315E-01 |

Daily Doses and Risk for : Endrin

| | |
|---|---|
| CADD (mg/kg-day) | 1.47E-04 |
| LADD (mg/kg-day) | 1.26E-05 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.342E-01 |

Daily Doses and Risk for : Hexane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 8.05E+00 |
| LADD (mg/kg-day) | 6.90E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.323E-01 |

Daily Doses and Risk for : Isoamyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 3.66E-03 |
| LADD (mg/kg-day) | 3.14E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Isopropyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 1.47E-01 |
| LADD (mg/kg-day) | 1.26E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.342E-01 |

Daily Doses and Risk for : Malathion

| | |
|---|---|
| CADD (mg/kg-day) | 1.47E-02 |
| LADD (mg/kg-day) | 1.26E-03 |

| | CP Res-full |
|---|---|
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.342E-01 |

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Biphenyl, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-02 |
| LADD (mg/kg-day) | 1.15E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Bis (2-ethyl-hexyl) phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 2.24E-03 |
| LADD (mg/kg-day) | 1.92E-04 |
| Cancer Risk (-) | 2.683E-06 |
| Hazard Index (-) | 8.944E-02 |

Daily Doses and Risk for : Butyl benzyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 5.38E-02 |
| LADD (mg/kg-day) | 4.61E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.690E-01 |

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | |
|---|---|
| CADD (mg/kg-day) | 2.40E-04 |
| LADD (mg/kg-day) | 2.06E-05 |
| Cancer Risk (-) | 2.679E-06 |
| Hazard Index (-) | 1.718E-01 |

Daily Doses and Risk for : Chlorpyrifos

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-03 |
| LADD (mg/kg-day) | 2.30E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Cresol, m- (3-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-02 |
| LADD (mg/kg-day) | 1.15E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Cresol, o- (2-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-02 |
| LADD (mg/kg-day) | 1.15E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Cresol, p- (4-methylphenol)

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-03 |
| LADD (mg/kg-day) | 1.15E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Cymene (isopropyltoluene)

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-02 |
| LADD (mg/kg-day) | 2.30E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Diethyl phthalate

| | |
|---|---|
| CADD (mg/kg-day) | 2.14E-01 |
| LADD (mg/kg-day) | 1.84E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.680E-01 |

Daily Doses and Risk for : Endrin

| | |
|---|---|
| CADD (mg/kg-day) | 5.38E-05 |

| | CP Res-full |
|---|---|
| LADD (mg/kg-day) | 4.61E-06 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.690E-01 |

Daily Doses and Risk for : Hexane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 2.95E+00 |
| LADD (mg/kg-day) | 2.53E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Isoamyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 1.34E-03 |
| LADD (mg/kg-day) | 1.15E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Isopropyl alcohol

| | |
|---|---|
| CADD (mg/kg-day) | 5.38E-02 |
| LADD (mg/kg-day) | 4.61E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.690E-01 |

Daily Doses and Risk for : Malathion

| | |
|---|---|
| CADD (mg/kg-day) | 5.38E-03 |
| LADD (mg/kg-day) | 4.61E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.690E-01 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Biphenyl, 1,1- | 3.3E+03 |
| Bis (2-ethyl-hexyl) phthalate | 5.6E+02 |
| Butyl benzyl phthalate | 1.3E+04 |
| Carbon tetrachloride (Tetrachlorom | 6.0E+01 |
| Chlorpyrifos | 6.7E+02 |
| Cresol, m- (3-methylphenol) | 3.3E+03 |
| Cresol, o- (2-methylphenol) | 3.3E+03 |
| Cresol, p- (4-methylphenol) | 3.3E+02 |
| Cymene (isopropyltoluene) | 6.7E+03 |
| Diethyl phthalate | 5.3E+04 |
| Endrin | 1.3E+01 |
| Hexane, n- | 7.3E+05 |
| Isoamyl alcohol | 3.3E+02 |
| Isopropyl alcohol | 1.3E+04 |
| Malathion | 1.3E+03 |

The exposure routes that depend on this source are:
Ingestion of soil
Dermal contact with soil

Title:
CP Res-child CD VOCl
06/11/08 20:01

Scenarios:
Child Resident - RME

Routes:
INGESTION OF SOIL
DERMAL CONTACT WITH SOIL

Chemicals:
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Hexachloroethane
Tetrachloroethane, 1,1,1,2-
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 15.0 |
| Lifetime (years) | 70.0 |
| **INGESTION OF SOIL** | |
| Soil Ingestion Rate (mg/day) | 200. |
| Exp. Frequency Soil (events/year) | 300. |
| Exp. Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Ingestion of Soil (-) | |
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |
| Soil Bioavailability (-) | |
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |
| **DERMAL CONTACT WITH SOIL** | |
| Total Skin Surface Area (cm^2) | 9.900E+03 |
| Fraction Skin Exposed to Soil (-) | 0.370 |
| Adherence Factor for Soil (mg/cm^2) | 0.200 |
| Exposure Freq. Soil (events/year) | 300. |
| Exposure Duration Soil (years) | 6.00 |
| Absorption Adjustment Factor for Dermal Exposure to Soil (-) | |
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | 0.10 |

| | |
|---|---|
| Dichloroethylene, 1,1- | 0.10 |
| Dichloroethylene, cis-1,2- | 0.10 |
| Dichloroethylene, trans-1,2 | 0.10 |
| Hexachloroethane | 0.10 |
| Tetrachloroethane, 1,1,1,2- | 0.10 |
| Tetrachloroethane, 1,1,2,2- | 0.10 |
| Tetrachloroethylene | 0.10 |
| Trichloroethane, 1,1,1- | 0.10 |
| Trichloroethane, 1,1,2- (Vinyl tric | 0.10 |
| Trichloroethylene | 0.10 |
| Vinyl chloride | 0.10 |

Soil Bioavailability (-)

| | |
|---|---|
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Hexachloroethane | 1.0 |
| Tetrachloroethane, 1,1,1,2- | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |

## MEDIA CONCENTRATIONS

Concentration in Surficial Soil (mg/kg)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Dichloroethane, 1,1- | 6.68E+03 |
| Dichloroethane, 1,2- | 7.79E+02 |
| Dichloroethylene, 1,1- | 3.07E+03 |
| Dichloroethylene, cis-1,2- | 6.68E+02 |
| Dichloroethylene, trans-1,2 | 1.14E+03 |
| Hexachloroethane | 67. |
| Tetrachloroethane, 1,1,1,2- | 3.00E+02 |
| Tetrachloroethane, 1,1,2,2- | 39. |
| Tetrachloroethylene | 9.35E+02 |
| Trichloroethane, 1,1,1- | 4.01E+04 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.37E+02 |
| Trichloroethylene | 4.10E+03 |
| Vinyl chloride | 7.8 |

## SLOPE FACTORS AND REFERENCE DOSES

Ingestion Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichloroethane, 1,1- | ND |
| Dichloroethane, 1,2- | 1.00E-02 |
| Dichloroethylene, 1,1- | ND |
| Dichloroethylene, cis-1,2- | ND |
| Dichloroethylene, trans-1,2 | ND |
| Hexachloroethane | 1.40E-02 |
| Tetrachloroethane, 1,1,1,2- | 2.60E-02 |
| Tetrachloroethane, 1,1,2,2- | 0.20 |
| Tetrachloroethylene | ND |
| Trichloroethane, 1,1,1- | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.70E-02 |
| Trichloroethylene | 1.90E-03 |
| Vinyl chloride | 1.0 |

Ingestion Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | ND |
| Dichloroethylene, 1,1- | 4.60E-02 |
| Dichloroethylene, cis-1,2- | 1.00E-02 |

| | |
|---|---|
| Dichloroethylene, trans-1,2 | 1.70E-02 |
| Hexachloroethane | 1.00E-03 |
| Tetrachloroethane, 1,1,1,2- | 3.00E-02 |
| Tetrachloroethane, 1,1,2,2- | 6.00E-02 |
| Tetrachloroethylene | 1.40E-02 |
| Trichloroethane, 1,1,1- | 0.60 |
| Trichloroethane, 1,1,2- (Vinyl tric | 4.00E-03 |
| Trichloroethylene | ND |
| Vinyl chloride | ND |

Dermal Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Dichloroethane, 1,1- | ND |
| Dichloroethane, 1,2- | 1.00E-02 |
| Dichloroethylene, 1,1- | ND |
| Dichloroethylene, cis-1,2- | ND |
| Dichloroethylene, trans-1,2 | ND |
| Hexachloroethane | 1.40E-02 |
| Tetrachloroethane, 1,1,1,2- | 2.60E-02 |
| Tetrachloroethane, 1,1,2,2- | 0.20 |
| Tetrachloroethylene | ND |
| Trichloroethane, 1,1,1- | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.70E-02 |
| Trichloroethylene | 1.90E-03 |
| Vinyl chloride | 1.0 |

Dermal Reference Dose (mg/kg-day)

| | |
|---|---|
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | ND |
| Dichloroethylene, 1,1- | 4.60E-02 |
| Dichloroethylene, cis-1,2- | 1.00E-02 |
| Dichloroethylene, trans-1,2 | 1.70E-02 |
| Hexachloroethane | 1.00E-03 |
| Tetrachloroethane, 1,1,1,2- | 3.00E-02 |
| Tetrachloroethane, 1,1,2,2- | 6.00E-02 |
| Tetrachloroethylene | 1.40E-02 |
| Trichloroethane, 1,1,1- | 0.60 |
| Trichloroethane, 1,1,2- (Vinyl tric | 4.00E-03 |
| Trichloroethylene | ND |
| Vinyl chloride | ND |

SUMMARY OF RESULTS

---

INGESTION OF SOIL

Daily Doses and Risk for : Dichloroethane, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 7.32E-02 |
| LADD (mg/kg-day) | 6.27E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.321E-01 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 8.54E-03 |
| LADD (mg/kg-day) | 7.32E-04 |
| Cancer Risk (-) | 7.317E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 3.36E-02 |
| LADD (mg/kg-day) | 2.88E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 7.314E-01 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-
CADD (mg/kg-day) 7.32E-03
LADD (mg/kg-day) 6.27E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.321E-01

Daily Doses and Risk for : Dichloroethylene, trans-1,2
CADD (mg/kg-day) 1.25E-02
LADD (mg/kg-day) 1.07E-03
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.349E-01

Daily Doses and Risk for : Hexachloroethane
CADD (mg/kg-day) 7.32E-04
LADD (mg/kg-day) 6.27E-05
Cancer Risk (-) 8.785E-07
Hazard Index (-) 7.321E-01

Daily Doses and Risk for : Tetrachloroethane, 1,1,1,2-
CADD (mg/kg-day) 3.29E-03
LADD (mg/kg-day) 2.82E-04
Cancer Risk (-) 7.327E-06
Hazard Index (-) 1.096E-01

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-
CADD (mg/kg-day) 4.27E-04
LADD (mg/kg-day) 3.66E-05
Cancer Risk (-) 7.327E-06
Hazard Index (-) 7.123E-03

Daily Doses and Risk for : Tetrachloroethylene
CADD (mg/kg-day) 1.02E-02
LADD (mg/kg-day) 8.78E-04
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.319E-01

Daily Doses and Risk for : Trichloroethane, 1,1,1-
CADD (mg/kg-day) 4.39E-01
LADD (mg/kg-day) 3.77E-02
Cancer Risk (-) 0.000E+00
Hazard Index (-) 7.324E-01

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric
CADD (mg/kg-day) 1.50E-03
LADD (mg/kg-day) 1.29E-04
Cancer Risk (-) 7.335E-06
Hazard Index (-) 3.753E-01

Daily Doses and Risk for : Trichloroethylene
CADD (mg/kg-day) 4.49E-02
LADD (mg/kg-day) 3.85E-03
Cancer Risk (-) 7.317E-06
Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Vinyl chloride
CADD (mg/kg-day) 8.54E-05
LADD (mg/kg-day) 7.32E-06
Cancer Risk (-) 7.317E-06
Hazard Index (-) 0.000E+00

DERMAL CONTACT WITH SOIL

Daily Doses and Risk for : Dichloroethane, 1,1-
CADD (mg/kg-day) 2.68E-02
LADD (mg/kg-day) 2.30E-03
Cancer Risk (-) 0.000E+00

| | |
|---|---|
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 3.13E-03 |
| LADD (mg/kg-day) | 2.68E-04 |
| Cancer Risk (-) | 2.680E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 1.23E-02 |
| LADD (mg/kg-day) | 1.06E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.679E-01 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-03 |
| LADD (mg/kg-day) | 2.30E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | |
|---|---|
| CADD (mg/kg-day) | 4.58E-03 |
| LADD (mg/kg-day) | 3.92E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.692E-01 |

Daily Doses and Risk for : Hexachloroethane

| | |
|---|---|
| CADD (mg/kg-day) | 2.68E-04 |
| LADD (mg/kg-day) | 2.30E-05 |
| Cancer Risk (-) | 3.218E-07 |
| Hazard Index (-) | 2.682E-01 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,1,2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.20E-03 |
| LADD (mg/kg-day) | 1.03E-04 |
| Cancer Risk (-) | 2.684E-06 |
| Hazard Index (-) | 4.014E-02 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | |
|---|---|
| CADD (mg/kg-day) | 1.57E-04 |
| LADD (mg/kg-day) | 1.34E-05 |
| Cancer Risk (-) | 2.684E-06 |
| Hazard Index (-) | 2.609E-03 |

Daily Doses and Risk for : Tetrachloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 3.75E-03 |
| LADD (mg/kg-day) | 3.22E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.681E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | |
|---|---|
| CADD (mg/kg-day) | 1.61E-01 |
| LADD (mg/kg-day) | 1.38E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 2.683E-01 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | |
|---|---|
| CADD (mg/kg-day) | 5.50E-04 |
| LADD (mg/kg-day) | 4.71E-05 |
| Cancer Risk (-) | 2.687E-06 |
| Hazard Index (-) | 1.375E-01 |

Daily Doses and Risk for : Trichloroethylene

| | |
|---|---|
| CADD (mg/kg-day) | 1.65E-02 |
| LADD (mg/kg-day) | 1.41E-03 |
| Cancer Risk (-) | 2.680E-06 |
| Hazard Index (-) | 0.000E+00 |

| | CP Res-full |
|---|---|
| Daily Doses and Risk for : Vinyl chloride | |
| CADD (mg/kg-day) | 3.13E-05 |
| LADD (mg/kg-day) | 2.68E-06 |
| Cancer Risk (-) | 2.680E-06 |
| Hazard Index (-) | 0.000E+00 |

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Surface Soil<br>Receptor: Child Resident - RME | SSTLs<br>[mg/kg] |
|---|---|
| Dichloroethane, 1,1- | 6.7E+03 |
| Dichloroethane, 1,2- | 7.8E+02 |
| Dichloroethylene, 1,1- | 3.1E+03 |
| Dichloroethylene, cis-1,2- | 6.7E+02 |
| Dichloroethylene, trans-1,2 | 1.1E+03 |
| Hexachloroethane | 6.7E+01 |
| Tetrachloroethane, 1,1,1,2- | 3.0E+02 |
| Tetrachloroethane, 1,1,2,2- | 3.9E+01 |
| Tetrachloroethylene | 9.4E+02 |
| Trichloroethane, 1,1,1- | 4.0E+04 |
| Trichloroethane, 1,1,2- (Vinyl tri | 1.4E+02 |
| Trichloroethylene | 4.1E+03 |
| Vinyl chloride | 7.8E+00 |

The exposure routes that depend on this source are:
- Ingestion of soil
- Dermal contact with soil

CAMINANTE SG INHALACIÓN EXTERIORES

Title:
13506_CAMINANTE-OUTDOOR
08/31/08 18:23

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
- Acetone (2-propanone)
- Butanol, n-
- Ethyl-2-methyl benzene, 1-
- Formaldehyde
- Isopropyl alcohol
- Tert-butyl alcohol (2-methyl-2-prop

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 2.10 | 2.00 |
| Time outdoors (hours/day) | 4.00 | 4.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Acetone (2-propanone) | 1.0 | 1.0 |
| Butanol, n- | 1.0 | 1.0 |
| Ethyl-2-methyl benzene, 1- | 1.0 | 1.0 |
| Formaldehyde | 1.0 | 1.0 |
| Isopropyl alcohol | 1.0 | 1.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| Acetone (2-propanone) | 90. | 90. |
| Butanol, n- | 0.22 | 0.22 |
| Ethyl-2-methyl benzene, 1- | 1.2 | 1.2 |
| Formaldehyde | 5.20E-03 | 5.20E-03 |
| Isopropyl alcohol | 2.0 | 2.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 0.87 | 0.87 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Acetone (2-propanone) | ND | ND |
| Butanol, n- | ND | ND |
| Ethyl-2-methyl benzene, 1- | ND | ND |
| Formaldehyde | 4.55E-02 | 4.55E-02 |
| Isopropyl alcohol | ND | ND |
| Tert-butyl alcohol (2-methyl-2-prop | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |
| Acetone (2-propanone) | 8.8 | 8.8 |





| | | |
|---|---|---|
| Butanol, n- | 2.20E-02 | 2.20E-02 |
| Ethyl-2-methyl benzene, 1- | 0.11 | 0.11 |
| Formaldehyde | 2.80E-03 | 2.80E-03 |
| Isopropyl alcohol | 0.20 | 0.20 |
| Tert-butyl alcohol (2-methyl-2-prop | 8.60E-02 | 8.60E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF OUTDOOR AIR** | | |
| Daily Doses and Risk for : Acetone (2-propanone) | | |
| CADD (mg/kg-day) | 8.84E+00 | 3.93E+01 |
| LADD (mg/kg-day) | 3.79E+00 | 3.37E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.997E-01 | 4.443E+00 |
| Daily Doses and Risk for : Butanol, n- | | |
| CADD (mg/kg-day) | 2.20E-02 | 9.78E-02 |
| LADD (mg/kg-day) | 9.43E-03 | 8.38E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 4.443E+00 |
| Daily Doses and Risk for : Ethyl-2-methyl benzene, 1- | | |
| CADD (mg/kg-day) | 1.14E-01 | 5.08E-01 |
| LADD (mg/kg-day) | 4.90E-02 | 4.36E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.460E+00 |
| Daily Doses and Risk for : Formaldehyde | | |
| CADD (mg/kg-day) | 5.13E-04 | 2.28E-03 |
| LADD (mg/kg-day) | 2.20E-04 | 1.95E-04 |
| Cancer Risk (-) | 1.000E-05 | 8.890E-06 |
| Hazard Index (-) | 1.832E-01 | 8.141E-01 |
| Daily Doses and Risk for : Isopropyl alcohol | | |
| CADD (mg/kg-day) | 2.00E-01 | 8.90E-01 |
| LADD (mg/kg-day) | 8.58E-02 | 7.63E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.449E+00 |
| Daily Doses and Risk for : Tert-butyl alcohol (2-methyl-2-prop | | |
| CADD (mg/kg-day) | 8.60E-02 | 3.82E-01 |
| LADD (mg/kg-day) | 3.69E-02 | 3.28E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 9.0E+01 | 1.6E+06 |
| Butanol, n- | 2.2E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 1.2E+00 | 1.6E+04 |
| Formaldehyde | 5.2E-03 | 5.6E+03 |
| Isopropyl alcohol | 2.0E+00 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 8.7E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 2.0E+01 | 1.6E+06 |
| Butanol, n- | 5.0E-02 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 2.6E-01 | 1.6E+04 |
| Formaldehyde | 5.8E-03 | 5.6E+03 |
| Isopropyl alcohol | 4.6E-01 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 2.0E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506 CAMINANTE_SOILGAS_OUTDOOR
08/31/08 18:28

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Chlorobenzene (Monochlorobenzene)
Dichlorodifluoromethane
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Dichloropropane, 1,2-
Styrene
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 2.10 | 2.00 |
| Time outdoors (hours/day) | 4.00 | 4.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |





| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.0 | 1.0 |
| Dichlorodifluoromethane | 1.0 | 1.0 |
| Dichloroethane, 1,1- | 1.0 | 1.0 |
| Dichloroethane, 1,2- | 1.0 | 1.0 |
| Dichloroethylene, 1,1- | 1.0 | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 | 1.0 |
| Dichloropropane, 1,2- | 1.0 | 1.0 |
| Styrene | 1.0 | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 | 1.0 |
| Tetrachloroethylene | 1.0 | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 | 1.0 |
| Trichloroethylene | 1.0 | 1.0 |
| Vinyl chloride | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Outdoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 0.14 | 0.14 |
| Dichlorodifluoromethane | 0.51 | 0.51 |
| Dichloroethane, 1,1- | 1.0 | 1.0 |
| Dichloroethane, 1,2- | 2.60E-03 | 2.60E-03 |
| Dichloroethylene, 1,1- | 0.58 | 0.58 |
| Dichloroethylene, cis-1,2- | 2.3 | 2.3 |
| Dichloroethylene, trans-1,2 | 0.17 | 0.17 |
| Dichloropropane, 1,2- | 1.16E-02 | 1.16E-02 |
| Styrene | 0.75 | 0.75 |
| Tetrachloroethane, 1,1,2,2- | 1.17E-03 | 1.17E-03 |
| Tetrachloroethylene | 0.72 | 0.72 |
| Trichloroethane, 1,1,1- | 6.4 | 6.4 |
| Trichloroethane, 1,1,2- (Vinyl tric | 4.22E-03 | 4.22E-03 |
| Trichloroethylene | 0.12 | 0.12 |
| Vinyl chloride | 6.76E-02 | 6.76E-02 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | ND | ND |
| Dichlorodifluoromethane | ND | ND |
| Dichloroethane, 1,1- | ND | ND |
| Dichloroethane, 1,2- | 9.10E-02 | 9.10E-02 |
| Dichloroethylene, 1,1- | ND | ND |
| Dichloroethylene, cis-1,2- | ND | ND |
| Dichloroethylene, trans-1,2 | ND | ND |
| Dichloropropane, 1,2- | ND | ND |
| Styrene | ND | ND |
| Tetrachloroethane, 1,1,2,2- | 0.20 | 0.20 |
| Tetrachloroethylene | ND | ND |
| Trichloroethane, 1,1,1- | ND | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.60E-02 | 5.60E-02 |
| Trichloroethylene | 1.90E-03 | 1.90E-03 |
| Vinyl chloride | 3.50E-03 | 3.50E-03 |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.42E-02 | 1.42E-02 |
| Dichlorodifluoromethane | 5.00E-02 | 5.00E-02 |
| Dichloroethane, 1,1- | 0.10 | 0.10 |
| Dichloroethane, 1,2- | 0.70 | 0.70 |
| Dichloroethylene, 1,1- | 5.70E-02 | 5.70E-02 |
| Dichloroethylene, cis-1,2- | 0.23 | 0.23 |
| Dichloroethylene, trans-1,2 | 1.70E-02 | 1.70E-02 |
| Dichloropropane, 1,2- | 1.14E-03 | 1.14E-03 |
| Styrene | 7.40E-02 | 7.40E-02 |
| Tetrachloroethane, 1,1,2,2- | ND | ND |
| Tetrachloroethylene | 7.10E-02 | 7.10E-02 |

| | | |
|---|---|---|
| Trichloroethane, 1,1,1- | 0.63 | 0.63 |
| Trichloroethane, 1,1,2- (Vinyl tric | ND | ND |
| Trichloroethylene | ND | ND |
| Vinyl chloride | ND | ND |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : Chlorobenzene (Monochlorobenzene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.42E-02 | 6.31E-02 |
| LADD (mg/kg-day) | 6.09E-03 | 5.41E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Dichlorodifluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.00E-02 | 2.22E-01 |
| LADD (mg/kg-day) | 2.14E-02 | 1.90E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Dichloroethane, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 9.96E-02 | 4.43E-01 |
| LADD (mg/kg-day) | 4.27E-02 | 3.79E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.962E-01 | 4.427E+00 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.56E-04 | 1.14E-03 |
| LADD (mg/kg-day) | 1.10E-04 | 9.77E-05 |
| Cancer Risk (-) | 1.000E-05 | 8.890E-06 |
| Hazard Index (-) | 3.663E-04 | 1.628E-03 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.70E-02 | 2.53E-01 |
| LADD (mg/kg-day) | 2.44E-02 | 2.17E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.30E-01 | 1.02E+00 |
| LADD (mg/kg-day) | 9.85E-02 | 8.75E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.992E-01 | 4.441E+00 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E-02 | 7.54E-02 |
| LADD (mg/kg-day) | 7.27E-03 | 6.46E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.979E-01 | 4.435E+00 |

Daily Doses and Risk for : Dichloropropane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-03 | 5.08E-03 |
| LADD (mg/kg-day) | 4.90E-04 | 4.36E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.460E+00 |

Daily Doses and Risk for : Styrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.40E-02 | 3.29E-01 |
| LADD (mg/kg-day) | 3.17E-02 | 2.82E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |





| | | |
|---|---|---|
| Hazard Index (-) | 9.996E-01 | 4.443E+00 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.15E-04 | 5.13E-04 |
| LADD (mg/kg-day) | 4.95E-05 | 4.40E-05 |
| Cancer Risk (-) | 1.004E-05 | 8.924E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Tetrachloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.10E-02 | 3.16E-01 |
| LADD (mg/kg-day) | 3.04E-02 | 2.71E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.30E-01 | 2.80E+00 |
| LADD (mg/kg-day) | 2.70E-01 | 2.40E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.446E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.16E-04 | 1.85E-03 |
| LADD (mg/kg-day) | 1.78E-04 | 1.59E-04 |
| Cancer Risk (-) | 9.989E-06 | 8.879E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Trichloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.23E-02 | 5.48E-02 |
| LADD (mg/kg-day) | 5.28E-03 | 4.70E-03 |
| Cancer Risk (-) | 1.004E-05 | 8.924E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.67E-03 | 2.96E-02 |
| LADD (mg/kg-day) | 2.86E-03 | 2.54E-03 |
| Cancer Risk (-) | 1.000E-05 | 8.890E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.4E-01 | 9.1E+04 |
| Dichlorodifluoromethane | 5.1E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 1.0E+00 | 1.0E+06 |
| Dichloroethane, 1,2- | 2.6E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 5.8E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 2.3E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 1.7E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 1.2E-02 | 3.3E+05 |
| Styrene | 7.5E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 1.2E-03 | 4.6E+04 |
| Tetrachloroethylene | 7.2E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 6.4E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 4.2E-03 | 1.7E+05 |
| Trichloroethylene | 1.2E-01 | 3.7E+05 |
| Vinyl chloride | 6.8E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Outdoor Air SSTLs Max. Vapor

| Receptor: Child Resident - RME | [mg/m3] | Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 3.2E-02 | 9.1E+04 |
| Dichlorodifluoromethane | 1.1E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 2.3E-01 | 1.0E+06 |
| Dichloroethane, 1,2- | 2.9E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 1.3E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 5.2E-01 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 3.9E-02 | 2.0E+06 |
| Dichloropropane, 1,2- | 2.6E-03 | 3.3E+05 |
| Styrene | 1.7E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 1.3E-03 | 4.6E+04 |
| Tetrachloroethylene | 1.6E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 1.4E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 4.8E-03 | 1.7E+05 |
| Trichloroethylene | 1.4E-01 | 3.7E+05 |
| Vinyl chloride | 7.6E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_CAMINANTE_SOILGAS_OUTDOOR
08/31/08 18:36

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Benzene
Benzo-a-pyrene
Cyclohexane
Ethyl benzene
Heptane, n-
Hexane, n-
Isobutylene (2-methyl-1-propene)
Naphthalene
Pentane
Toluene
Trimethylbenzene, 1,2,3-
Trimethylbenzene, 1,2,4-
Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 2.10 | 2.00 |
| Time outdoors (hours/day) | 4.00 | 4.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Benzene | 1.0 | 1.0 |
| Benzo-a-pyrene | 1.0 | 1.0 |
| Cyclohexane | 1.0 | 1.0 |





| | | |
|---|---|---|
| Ethyl benzene | 1.0 | 1.0 |
| Heptane, n- | 1.0 | 1.0 |
| Hexane, n- | 1.0 | 1.0 |
| Isobutylene (2-methyl-1-propene) | 1.0 | 1.0 |
| Naphthalene | 1.0 | 1.0 |
| Pentane | 1.0 | 1.0 |
| Toluene | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,3- | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,4- | 1.0 | 1.0 |
| Xylenes | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Outdoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | | |
|---|---|---|
| Benzene | 1.15E-02 | 1.15E-02 |
| Benzo-a-pyrene | 8.10E-07 | 8.10E-07 |
| Cyclohexane | 17. | 17. |
| Ethyl benzene | 2.9 | 2.9 |
| Heptane, n- | 52. | 52. |
| Hexane, n- | 2.0 | 2.0 |
| Isobutylene (2-methyl-1-propene) | 12. | 12. |
| Naphthalene | 8.69E-03 | 8.69E-03 |
| Pentane | 5.79E-02 | 5.79E-02 |
| Toluene | 0.75 | 0.75 |
| Trimethylbenzene, 1,2,3- | 1.74E-02 | 1.74E-02 |
| Trimethylbenzene, 1,2,4- | 2.03E-02 | 2.03E-02 |
| Xylenes | 0.29 | 0.29 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Benzene | 2.05E-02 | 2.05E-02 |
| Benzo-a-pyrene | 2.92E+02 | 2.92E+02 |
| Cyclohexane | ND | ND |
| Ethyl benzene | ND | ND |
| Heptane, n- | ND | ND |
| Hexane, n- | ND | ND |
| Isobutylene (2-methyl-1-propene) | ND | ND |
| Naphthalene | ND | ND |
| Pentane | ND | ND |
| Toluene | ND | ND |
| Trimethylbenzene, 1,2,3- | ND | ND |
| Trimethylbenzene, 1,2,4- | ND | ND |
| Xylenes | ND | ND |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Benzene | ND | ND |
| Benzo-a-pyrene | ND | ND |
| Cyclohexane | 1.7 | 1.7 |
| Ethyl benzene | 0.29 | 0.29 |
| Heptane, n- | 5.1 | 5.1 |
| Hexane, n- | 0.20 | 0.20 |
| Isobutylene (2-methyl-1-propene) | 1.1 | 1.1 |
| Naphthalene | 8.57E-04 | 8.57E-04 |
| Pentane | 5.71E-03 | 5.71E-03 |
| Toluene | 7.43E-02 | 7.43E-02 |
| Trimethylbenzene, 1,2,3- | 1.71E-03 | 1.71E-03 |
| Trimethylbenzene, 1,2,4- | 2.00E-03 | 2.00E-03 |
| Xylenes | 2.86E-02 | 2.86E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : Benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.13E-03 | 5.04E-03 |
| LADD (mg/kg-day) | 4.86E-04 | 4.32E-04 |
| Cancer Risk (-) | 9.965E-06 | 8.858E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.99E-08 | 3.55E-07 |
| LADD (mg/kg-day) | 3.42E-08 | 3.04E-08 |
| Cancer Risk (-) | 9.998E-06 | 8.887E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Cyclohexane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E+00 | 7.54E+00 |
| LADD (mg/kg-day) | 7.27E-01 | 6.46E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.979E-01 | 4.435E+00 |

Daily Doses and Risk for : Ethyl benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.27E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.09E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Heptane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.14E+00 | 2.28E+01 |
| LADD (mg/kg-day) | 2.20E+00 | 1.96E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.997E-01 | 4.443E+00 |

Daily Doses and Risk for : Hexane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-01 | 8.90E-01 |
| LADD (mg/kg-day) | 8.58E-02 | 7.63E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.449E+00 |

Daily Doses and Risk for : Isobutylene (2-methyl-1-propene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E+00 | 5.08E+00 |
| LADD (mg/kg-day) | 4.90E-01 | 4.36E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.460E+00 |

Daily Doses and Risk for : Naphthalene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.57E-04 | 3.81E-03 |
| LADD (mg/kg-day) | 3.67E-04 | 3.27E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Pentane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-03 | 2.54E-02 |
| LADD (mg/kg-day) | 2.45E-03 | 2.18E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Toluene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.44E-02 | 3.31E-01 |
| LADD (mg/kg-day) | 3.19E-02 | 2.83E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.448E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,3-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.72E-03 | 7.63E-03 |
| LADD (mg/kg-day) | 7.35E-04 | 6.54E-04 |





| | | |
|---|---|---|
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.449E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,4-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-03 | 8.90E-03 |
| LADD (mg/kg-day) | 8.58E-04 | 7.63E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.449E+00 |

Daily Doses and Risk for : Xylenes

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-02 | 1.27E-01 |
| LADD (mg/kg-day) | 1.23E-02 | 1.09E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 1.3E-02 | 4.0E+05 |
| Benzo-a-pyrene | 9.1E-07 | 7.5E-05 |
| Cyclohexane | 3.9E+00 | 2.8E+05 |
| Ethyl benzene | 6.5E-01 | 5.5E+04 |
| Heptane, n- | 1.2E+01 | 2.2E+05 |
| Hexane, n- | 4.6E-01 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 2.6E+00 | 2.3E+06 |
| Naphthalene | 2.0E-03 | 6.1E+02 |
| Pentane | 1.3E-02 | 1.8E+06 |
| Toluene | 1.7E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 3.9E-03 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 4.6E-03 | 1.0E+04 |
| Xylenes | 6.5E-02 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_CAMINANTE_SOILGAS_OUTDOOR
08/31/08 19:00

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
TPH Aliphatic 10-16*
TPH Aliphatic 16-22 *
TPH Aliphatic 22-30 *
TPH Aliphatic 30-40 *
TPH Aromatic 10-16 *
TPH Aromatic 16-22 *
TPH Aromatic 22-30*
TPH Aromatic 30-40 *
>5-6 C aliphatics (TPHCWG)
>6-8 C aliphatics (TPHCWG)
>8-10 C aliphatics (TPHCWG)
>5-7 C aromatics (TPHCWG)
>7-8 C aromatics (TPHCWG)
>8-10 C aromatics (TPHCWG)

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 2.10 | 2.00 |
| Time outdoors (hours/day) | 4.00 | 4.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| TPH Aliphatic 10-16* | 1.0 | 1.0 |
| TPH Aliphatic 16-22 * | 1.0 | 1.0 |
| TPH Aliphatic 22-30 * | 1.0 | 1.0 |
| TPH Aliphatic 30-40 * | 1.0 | 1.0 |
| TPH Aromatic 10-16 * | 1.0 | 1.0 |
| TPH Aromatic 16-22 * | 1.0 | 1.0 |
| TPH Aromatic 22-30* | 1.0 | 1.0 |
| TPH Aromatic 30-40 * | 1.0 | 1.0 |
| >5-6 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >6-8 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >5-7 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >7-8 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aromatics (TPHCWG) | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| TPH Aliphatic 10-16* | 2.9 | 2.9 |
| TPH Aliphatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 22-30 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 30-40 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 10-16 * | 0.58 | 0.58 |
| TPH Aromatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 22-30* | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 30-40 * | 1.00E+06 | 1.00E+06 |
| >5-6 C aliphatics (TPHCWG) | 53. | 53. |
| >6-8 C aliphatics (TPHCWG) | 53. | 53. |
| >8-10 C aliphatics (TPHCWG) | 2.9 | 2.9 |
| >5-7 C aromatics (TPHCWG) | 8.69E-02 | 8.69E-02 |
| >7-8 C aromatics (TPHCWG) | 1.2 | 1.2 |
| >8-10 C aromatics (TPHCWG) | 0.58 | 0.58 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| TPH Aliphatic 10-16* | ND | ND |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | ND | ND |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | ND | ND |
| >6-8 C aliphatics (TPHCWG) | ND | ND |
| >8-10 C aliphatics (TPHCWG) | ND | ND |
| >5-7 C aromatics (TPHCWG) | ND | ND |
| >7-8 C aromatics (TPHCWG) | ND | ND |





| | | |
|---|---|---|
| >8-10 C aromatics (TPHCWG) | ND | ND |
| **Inhalation Reference Dose (mg/kg-day)** | | |
| TPH Aliphatic 10-16* | 0.29 | 0.29 |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | 5.71E-02 | 5.71E-02 |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >6-8 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >8-10 C aliphatics (TPHCWG) | 0.29 | 0.29 |
| >5-7 C aromatics (TPHCWG) | 8.57E-03 | 8.57E-03 |
| >7-8 C aromatics (TPHCWG) | 0.11 | 0.11 |
| >8-10 C aromatics (TPHCWG) | 5.71E-02 | 5.71E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF OUTDOOR AIR** | | |
| Daily Doses and Risk for : TPH Aliphatic 10-16* | | |
| CADD (mg/kg-day) | 2.86E-01 | 1.27E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.09E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |
| Daily Doses and Risk for : TPH Aliphatic 16-22 * | | |
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |
| Daily Doses and Risk for : TPH Aliphatic 22-30 * | | |
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |
| Daily Doses and Risk for : TPH Aliphatic 30-40 * | | |
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |
| Daily Doses and Risk for : TPH Aromatic 10-16 * | | |
| CADD (mg/kg-day) | 5.71E-02 | 2.54E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 2.18E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |
| Daily Doses and Risk for : TPH Aromatic 16-22 * | | |
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |
| Daily Doses and Risk for : TPH Aromatic 22-30* | | |
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |

| | | |
|---|---|---|
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 9.86E+04 | 4.38E+05 |
| LADD (mg/kg-day) | 4.23E+04 | 3.76E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : >5-6 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 2.34E+01 |
| LADD (mg/kg-day) | 2.25E+00 | 2.00E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 4.442E+00 |

Daily Doses and Risk for : >6-8 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 2.34E+01 |
| LADD (mg/kg-day) | 2.25E+00 | 2.00E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 4.442E+00 |

Daily Doses and Risk for : >8-10 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.27E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.09E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : >5-7 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.57E-03 | 3.81E-02 |
| LADD (mg/kg-day) | 3.67E-03 | 3.27E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : >7-8 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-01 | 5.08E-01 |
| LADD (mg/kg-day) | 4.90E-02 | 4.36E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.460E+00 |

Daily Doses and Risk for : >8-10 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 2.54E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 2.18E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Outdoor Air — Receptor: Adult Resident - RME

| | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| TPH Aliphatic 10-16* | 2.9E+00 | 8.4E+02 |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 |
| *** | | |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** | | |
| TPH Aromatic 10-16 * | 5.8E-01 | 7.6E+02 |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** | | |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** | | |
| >5-6 C aliphatics (TPHCWG) | 5.3E+01 | 1.2E+06 |





| | | |
|---|---|---|
| >6-8 C aliphatics (TPHCWG) | 5.3E+01 | 2.7E+05 |
| >8-10 C aliphatics (TPHCWG) | 2.9E+00 | 3.4E+04 |
| >5-7 C aromatics (TPHCWG) | 8.7E-02 | 0.0E+00 |
| *** | | |
| >7-8 C aromatics (TPHCWG) | 1.2E+00 | 1.5E+05 |
| >8-10 C aromatics (TPHCWG) | 5.8E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Outdoor Air — Receptor: Child Resident - RME

| | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| TPH Aliphatic 10-16* | 6.5E-01 | 8.4E+02 |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 |
| *** | | |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** | | |
| TPH Aromatic 10-16 * | 1.3E-01 | 7.6E+02 |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** | | |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** | | |
| >5-6 C aliphatics (TPHCWG) | 1.2E+01 | 1.2E+06 |
| >6-8 C aliphatics (TPHCWG) | 1.2E+01 | 2.7E+05 |
| >8-10 C aliphatics (TPHCWG) | 6.5E-01 | 3.4E+04 |
| >5-7 C aromatics (TPHCWG) | 2.0E-02 | 0.0E+00 |
| *** | | |
| >7-8 C aromatics (TPHCWG) | 2.6E-01 | 1.5E+05 |
| >8-10 C aromatics (TPHCWG) | 1.3E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_RES_SOILGAS_OUTDOOR
08/31/08 19:03

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Carbon tetrachloride (Tetrachlorome
Chloroform (Trichloromethane)
Cyclopentane, methyl-
Dichlorofluoromethane
Methylene chloride (dichloromethane

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 2.10 | 2.00 |
| Time outdoors (hours/day) | 4.00 | 4.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Carbon tetrachloride (Tetrachlorome | 1.0 | 1.0 |
| Chloroform (Trichloromethane) | 1.0 | 1.0 |
| Cyclopentane, methyl- | 1.0 | 1.0 |
| Dichlorofluoromethane | 1.0 | 1.0 |
| Methylene chloride (dichloromethane | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) | | |
| - Used to calculate risk and hazard index. | | |
| Carbon tetrachloride (Tetrachlorome | 4.51E-03 | 4.51E-03 |
| Chloroform (Trichloromethane) | 2.92E-03 | 2.92E-03 |
| Cyclopentane, methyl- | 2.9 | 2.9 |
| Dichlorofluoromethane | 0.10 | 0.10 |
| Methylene chloride (dichloromethane | 0.14 | 0.14 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Carbon tetrachloride (Tetrachlorome | 5.25E-02 | 5.25E-02 |
| Chloroform (Trichloromethane) | 8.10E-02 | 8.10E-02 |
| Cyclopentane, methyl- | ND | ND |
| Dichlorofluoromethane | ND | ND |
| Methylene chloride (dichloromethane | 1.65E-03 | 1.65E-03 |
| Inhalation Reference Dose (mg/kg-day) | | |
| Carbon tetrachloride (Tetrachlorome | 0.54 | 0.54 |
| Chloroform (Trichloromethane) | 2.80E-02 | 2.80E-02 |
| Cyclopentane, methyl- | 0.29 | 0.29 |
| Dichlorofluoromethane | 1.00E-02 | 1.00E-02 |
| Methylene chloride (dichloromethane | 0.30 | 0.30 |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

**INHALATION OF OUTDOOR AIR**

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.45E-04 | 1.98E-03 |
| LADD (mg/kg-day) | 1.91E-04 | 1.69E-04 |
| Cancer Risk (-) | 1.001E-05 | 8.896E-06 |
| Hazard Index (-) | 8.237E-04 | 3.661E-03 |

Daily Doses and Risk for : Chloroform (Trichloromethane)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.88E-04 | 1.28E-03 |





| | | |
|---|---|---|
| LADD (mg/kg-day) | 1.23E-04 | 1.10E-04 |
| Cancer Risk (-) | 9.998E-06 | 8.887E-06 |
| Hazard Index (-) | 1.029E-02 | 4.571E-02 |

Daily Doses and Risk for : Cyclopentane, methyl-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.27E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.09E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.445E+00 |

Daily Doses and Risk for : Dichlorofluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 9.96E-03 | 4.43E-02 |
| LADD (mg/kg-day) | 4.27E-03 | 3.79E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.962E-01 | 4.427E+00 |

Daily Doses and Risk for : Methylene chloride (dichloromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.41E-02 | 6.27E-02 |
| LADD (mg/kg-day) | 6.04E-03 | 5.37E-03 |
| Cancer Risk (-) | 9.974E-06 | 8.865E-06 |
| Hazard Index (-) | 4.701E-02 | 2.089E-01 |

**SUMMARY OF CLEAN-UP LEVELS**

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 4.5E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 2.9E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 2.9E+00 | 4.9E+05 |
| Dichlorofluoromethane | 1.0E-01 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.4E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

**SUMMARY OF CLEAN-UP LEVELS**

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 5.1E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 3.3E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 6.5E-01 | 4.9E+05 |
| Dichlorofluoromethane | 2.3E-02 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.6E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

RESIDENCIAL INHALACIÓN SG INDOOR

Title:
13506_RES_SOILGAS_INDOOR
07/03/08 11:56

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
- Acetone (2-propanone)
- Butanol, n-
- Ethyl-2-methyl benzene, 1-
- Formaldehyde
- Isopropyl alcohol
- Tert-butyl alcohol (2-methyl-2-prop

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF INDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 0.550 | 0.400 |
| Time indoors (hours/day) | 17.0 | 17.0 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 350. | 350. |
| Exp. Duration Indoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Acetone (2-propanone) | 1.0 | 1.0 |
| Butanol, n- | 1.0 | 1.0 |
| Ethyl-2-methyl benzene, 1- | 1.0 | 1.0 |
| Formaldehyde | 1.0 | 1.0 |
| Isopropyl alcohol | 1.0 | 1.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Indoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| Acetone (2-propanone) | 69. | 69. |
| Butanol, n- | 0.17 | 0.17 |
| Ethyl-2-methyl benzene, 1- | 0.89 | 0.89 |
| Formaldehyde | 4.00E-03 | 4.00E-03 |
| Isopropyl alcohol | 0.80 | 0.80 |
| Tert-butyl alcohol (2-methyl-2-prop | 0.67 | 0.67 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Acetone (2-propanone) | ND | ND |
| Butanol, n- | ND | ND |
| Ethyl-2-methyl benzene, 1- | ND | ND |
| Formaldehyde | 4.55E-02 | 4.55E-02 |
| Isopropyl alcohol | ND | ND |
| Tert-butyl alcohol (2-methyl-2-prop | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |
| Acetone (2-propanone) | 8.8 | 8.8 |





| | | |
|---|---|---|
| Butanol, n- | 2.20E-02 | 2.20E-02 |
| Ethyl-2-methyl benzene, 1- | 0.11 | 0.11 |
| Formaldehyde | 2.80E-03 | 2.80E-03 |
| Isopropyl alcohol | 0.10 | 0.10 |
| Tert-butyl alcohol (2-methyl-2-prop | 8.60E-02 | 8.60E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF INDOOR AIR** | | |
| Daily Doses and Risk for : Acetone (2-propanone) | | |
| CADD (mg/kg-day) | 8.84E+00 | 3.00E+01 |
| LADD (mg/kg-day) | 3.79E+00 | 2.57E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.997E-01 | 3.393E+00 |
| Daily Doses and Risk for : Butanol, n- | | |
| CADD (mg/kg-day) | 2.20E-02 | 7.48E-02 |
| LADD (mg/kg-day) | 9.44E-03 | 6.41E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 3.399E+00 |
| Daily Doses and Risk for : Ethyl-2-methyl benzene, 1- | | |
| CADD (mg/kg-day) | 1.14E-01 | 3.87E-01 |
| LADD (mg/kg-day) | 4.89E-02 | 3.32E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.999E-01 | 3.394E+00 |
| Daily Doses and Risk for : Formaldehyde | | |
| CADD (mg/kg-day) | 5.12E-04 | 1.74E-03 |
| LADD (mg/kg-day) | 2.20E-04 | 1.49E-04 |
| Cancer Risk (-) | 9.990E-06 | 6.781E-06 |
| Hazard Index (-) | 1.830E-01 | 6.210E-01 |
| Daily Doses and Risk for : Isopropyl alcohol | | |
| CADD (mg/kg-day) | 1.03E-01 | 3.50E-01 |
| LADD (mg/kg-day) | 4.41E-02 | 3.00E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 3.393E+00 |
| Daily Doses and Risk for : Tert-butyl alcohol (2-methyl-2-prop | | |
| CADD (mg/kg-day) | 8.61E-02 | 2.92E-01 |
| LADD (mg/kg-day) | 3.69E-02 | 2.50E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 3.397E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 6.9E+01 | 1.6E+06 |
| Butanol, n- | 1.7E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 8.9E-01 | 1.6E+04 |
| Formaldehyde | 4.0E-03 | 5.6E+03 |
| Isopropyl alcohol | 8.0E-01 | 9.9E+03 |
| Tert-butyl alcohol (2-methyl-2-pro | 6.7E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of indoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 2.0E+01 | 1.6E+06 |
| Butanol, n- | 5.1E-02 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 2.6E-01 | 1.6E+04 |
| Formaldehyde | 5.9E-03 | 5.6E+03 |
| Isopropyl alcohol | 2.4E-01 | 9.9E+03 |
| Tert-butyl alcohol (2-methyl-2-pro | 2.0E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_RES_SOILGAS_INDOOR
08/31/08 16:19

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
Chlorobenzene (Monochlorobenzene)
Dichlorodifluoromethane
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Dichloropropane, 1,2-
Styrene
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF INDOOR AIR | | |
| Inhalation rate (m^3/hr) | 0.550 | 0.400 |
| Time indoors (hours/day) | 17.0 | 17.0 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 350. | 350. |
| Exp. Duration Indoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for | | |





| | | |
|---|---|---|
| Inhalation (-) | | |
| Chlorobenzene (Monochlorobenzene) | 1.0 | 1.0 |
| Dichlorodifluoromethane | 1.0 | 1.0 |
| Dichloroethane, 1,1- | 1.0 | 1.0 |
| Dichloroethane, 1,2- | 1.0 | 1.0 |
| Dichloroethylene, 1,1- | 1.0 | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 | 1.0 |
| Dichloropropane, 1,2- | 1.0 | 1.0 |
| Styrene | 1.0 | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 | 1.0 |
| Tetrachloroethylene | 1.0 | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 | 1.0 |
| Trichloroethylene | 1.0 | 1.0 |
| Vinyl chloride | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

| Concentration in Indoor Air (mg/m^3)<br>- Used to calculate risk and hazard index. | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 0.11 | 0.11 |
| Dichlorodifluoromethane | 0.39 | 0.39 |
| Dichloroethane, 1,1- | 0.78 | 0.78 |
| Dichloroethane, 1,2- | 2.00E-03 | 2.00E-03 |
| Dichloroethylene, 1,1- | 0.44 | 0.44 |
| Dichloroethylene, cis-1,2- | 1.8 | 1.8 |
| Dichloroethylene, trans-1,2 | 0.13 | 0.13 |
| Dichloropropane, 1,2- | 8.90E-03 | 8.90E-03 |
| Styrene | 0.58 | 0.58 |
| Tetrachloroethane, 1,1,2,2- | 8.98E-04 | 8.98E-04 |
| Tetrachloroethylene | 0.55 | 0.55 |
| Trichloroethane, 1,1,1- | 4.9 | 4.9 |
| Trichloroethane, 1,1,2- (Vinyl tric | 3.25E-03 | 3.25E-03 |
| Trichloroethylene | 9.59E-02 | 9.59E-02 |
| Vinyl chloride | 5.21E-02 | 5.21E-02 |

SLOPE FACTORS AND REFERENCE DOSES

| Inhalation Slope Factor [1/(mg/kg-day)] | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | ND | ND |
| Dichlorodifluoromethane | ND | ND |
| Dichloroethane, 1,1- | ND | ND |
| Dichloroethane, 1,2- | 9.10E-02 | 9.10E-02 |
| Dichloroethylene, 1,1- | ND | ND |
| Dichloroethylene, cis-1,2- | ND | ND |
| Dichloroethylene, trans-1,2 | ND | ND |
| Dichloropropane, 1,2- | ND | ND |
| Styrene | ND | ND |
| Tetrachloroethane, 1,1,2,2- | 0.20 | 0.20 |
| Tetrachloroethylene | ND | ND |
| Trichloroethane, 1,1,1- | ND | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.60E-02 | 5.60E-02 |
| Trichloroethylene | 1.90E-03 | 1.90E-03 |
| Vinyl chloride | 3.50E-03 | 3.50E-03 |

| Inhalation Reference Dose (mg/kg-day) | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.42E-02 | 1.42E-02 |
| Dichlorodifluoromethane | 5.00E-02 | 5.00E-02 |
| Dichloroethane, 1,1- | 0.10 | 0.10 |
| Dichloroethane, 1,2- | 0.70 | 0.70 |
| Dichloroethylene, 1,1- | 5.70E-02 | 5.70E-02 |
| Dichloroethylene, cis-1,2- | 0.23 | 0.23 |
| Dichloroethylene, trans-1,2 | 1.70E-02 | 1.70E-02 |
| Dichloropropane, 1,2- | 1.14E-03 | 1.14E-03 |
| Styrene | 7.40E-02 | 7.40E-02 |
| Tetrachloroethane, 1,1,2,2- | ND | ND |

| | | |
|---|---|---|
| Tetrachloroethylene | 7.10E-02 | 7.10E-02 |
| Trichloroethane, 1,1,1- | 0.63 | 0.63 |
| Trichloroethane, 1,1,2- (Vinyl tric | ND | ND |
| Trichloroethylene | ND | ND |
| Vinyl chloride | ND | ND |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF INDOOR AIR

Daily Doses and Risk for : Chlorobenzene (Monochlorobenzene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.42E-02 | 4.83E-02 |
| LADD (mg/kg-day) | 6.09E-03 | 4.14E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 3.398E+00 |

Daily Doses and Risk for : Dichlorodifluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.00E-02 | 1.70E-01 |
| LADD (mg/kg-day) | 2.14E-02 | 1.45E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.990E-01 | 3.391E+00 |

Daily Doses and Risk for : Dichloroethane, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.00E-01 | 3.40E-01 |
| LADD (mg/kg-day) | 4.29E-02 | 2.91E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 3.395E+00 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.56E-04 | 8.69E-04 |
| LADD (mg/kg-day) | 1.10E-04 | 7.45E-05 |
| Cancer Risk (-) | 9.990E-06 | 6.781E-06 |
| Hazard Index (-) | 3.659E-04 | 1.242E-03 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.70E-02 | 1.93E-01 |
| LADD (mg/kg-day) | 2.44E-02 | 1.66E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.999E-01 | 3.394E+00 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.31E-01 | 7.82E-01 |
| LADD (mg/kg-day) | 9.88E-02 | 6.71E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 3.402E+00 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E-02 | 5.78E-02 |
| LADD (mg/kg-day) | 7.30E-03 | 4.96E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 3.401E+00 |

Daily Doses and Risk for : Dichloropropane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-03 | 3.87E-03 |
| LADD (mg/kg-day) | 4.89E-04 | 3.32E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.999E-01 | 3.394E+00 |

Daily Doses and Risk for : Styrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.40E-02 | 2.51E-01 |
| LADD (mg/kg-day) | 3.17E-02 | 2.15E-02 |





| | | |
|---|---|---|
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 3.395E+00 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.15E-04 | 3.90E-04 |
| LADD (mg/kg-day) | 4.93E-05 | 3.35E-05 |
| Cancer Risk (-) | 1.001E-05 | 6.792E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Tetrachloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.10E-02 | 2.41E-01 |
| LADD (mg/kg-day) | 3.04E-02 | 2.06E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 3.392E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.30E-01 | 2.14E+00 |
| LADD (mg/kg-day) | 2.70E-01 | 1.83E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 3.395E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.16E-04 | 1.41E-03 |
| LADD (mg/kg-day) | 1.78E-04 | 1.21E-04 |
| Cancer Risk (-) | 9.990E-06 | 6.781E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Trichloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.23E-02 | 4.17E-02 |
| LADD (mg/kg-day) | 5.26E-03 | 3.57E-03 |
| Cancer Risk (-) | 1.000E-05 | 6.789E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.67E-03 | 2.26E-02 |
| LADD (mg/kg-day) | 2.86E-03 | 1.94E-03 |
| Cancer Risk (-) | 1.001E-05 | 6.794E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

SUMMARY OF CLEAN-UP LEVELS

---

| Clean-up Levels in Indoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.1E-01 | 9.1E+04 |
| Dichlorodifluoromethane | 3.9E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 7.8E-01 | 1.0E+06 |
| Dichloroethane, 1,2- | 2.0E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 4.5E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 1.8E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 1.3E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 8.9E-03 | 3.3E+05 |
| Styrene | 5.8E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 9.0E-04 | 4.6E+04 |
| Tetrachloroethylene | 5.5E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 4.9E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 3.3E-03 | 1.7E+05 |
| Trichloroethylene | 9.6E-02 | 3.7E+05 |
| Vinyl chloride | 5.2E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 3.3E-02 | 9.1E+04 |
| Dichlorodifluoromethane | 1.2E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 2.3E-01 | 1.0E+06 |
| Dichloroethane, 1,2- | 2.9E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 1.3E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 5.3E-01 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 3.9E-02 | 2.0E+06 |
| Dichloropropane, 1,2- | 2.6E-03 | 3.3E+05 |
| Styrene | 1.7E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 1.3E-03 | 4.6E+04 |
| Tetrachloroethylene | 1.6E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 1.4E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 4.8E-03 | 1.7E+05 |
| Trichloroethylene | 1.4E-01 | 3.7E+05 |
| Vinyl chloride | 7.7E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_RES_SOILGAS_INDOOR
07/03/08 11:48

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
TPH Aliphatic 10-16*
TPH Aliphatic 16-22 *
TPH Aliphatic 22-30 *
TPH Aliphatic 30-40 *
TPH Aromatic 10-16 *
TPH Aromatic 16-22 *
TPH Aromatic 22-30*
TPH Aromatic 30-40 *
>5-6 C aliphatics (TPHCWG)
>6-8 C aliphatics (TPHCWG)
>8-10 C aliphatics (TPHCWG)
>5-7 C aromatics (TPHCWG)
>7-8 C aromatics (TPHCWG)
>8-10 C aromatics (TPHCWG)

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF INDOOR AIR | | |
| Inhalation rate (m^3/hr) | 0.550 | 0.400 |
| Time indoors (hours/day) | 17.0 | 17.0 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 350. | 350. |





| | | |
|---|---|---|
| Exp. Duration Indoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| TPH Aliphatic 10-16* | 1.0 | 1.0 |
| TPH Aliphatic 16-22 * | 1.0 | 1.0 |
| TPH Aliphatic 22-30 * | 1.0 | 1.0 |
| TPH Aliphatic 30-40 * | 1.0 | 1.0 |
| TPH Aromatic 10-16 * | 1.0 | 1.0 |
| TPH Aromatic 16-22 * | 1.0 | 1.0 |
| TPH Aromatic 22-30* | 1.0 | 1.0 |
| TPH Aromatic 30-40 * | 1.0 | 1.0 |
| >5-6 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >6-8 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >5-7 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >7-8 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aromatics (TPHCWG) | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

| Concentration in Indoor Air (mg/m^3)<br>- Used to calculate risk and hazard index. | | |
|---|---|---|
| TPH Aliphatic 10-16* | 2.2 | 2.2 |
| TPH Aliphatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 22-30 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 30-40 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 10-16 * | 0.45 | 0.45 |
| TPH Aromatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 22-30* | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 30-40 * | 1.00E+06 | 1.00E+06 |
| >5-6 C aliphatics (TPHCWG) | 41. | 41. |
| >6-8 C aliphatics (TPHCWG) | 41. | 41. |
| >8-10 C aliphatics (TPHCWG) | 2.2 | 2.2 |
| >5-7 C aromatics (TPHCWG) | 6.69E-02 | 6.69E-02 |
| >7-8 C aromatics (TPHCWG) | 0.89 | 0.89 |
| >8-10 C aromatics (TPHCWG) | 0.45 | 0.45 |

SLOPE FACTORS AND REFERENCE DOSES

| Inhalation Slope Factor [1/(mg/kg-day)] | | |
|---|---|---|
| TPH Aliphatic 10-16* | ND | ND |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | ND | ND |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | ND | ND |
| >6-8 C aliphatics (TPHCWG) | ND | ND |
| >8-10 C aliphatics (TPHCWG) | ND | ND |
| >5-7 C aromatics (TPHCWG) | ND | ND |
| >7-8 C aromatics (TPHCWG) | ND | ND |
| >8-10 C aromatics (TPHCWG) | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |
| TPH Aliphatic 10-16* | 0.29 | 0.29 |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | 5.71E-02 | 5.71E-02 |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >6-8 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >8-10 C aliphatics (TPHCWG) | 0.29 | 0.29 |

| | | |
|---|---|---|
| >5-7 C aromatics (TPHCWG) | 8.57E-03 | 8.57E-03 |
| >7-8 C aromatics (TPHCWG) | 0.11 | 0.11 |
| >8-10 C aromatics (TPHCWG) | 5.71E-02 | 5.71E-02 |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF INDOOR AIR

Daily Doses and Risk for : TPH Aliphatic 10-16*

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 9.69E-01 |
| LADD (mg/kg-day) | 1.22E-01 | 8.31E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.987E-01 | 3.389E+00 |

Daily Doses and Risk for : TPH Aliphatic 16-22 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 22-30 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 10-16 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 1.94E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 1.66E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 3.395E+00 |

Daily Doses and Risk for : TPH Aromatic 16-22 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 22-30*

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.28E+05 | 4.35E+05 |
| LADD (mg/kg-day) | 5.49E+04 | 3.73E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : >5-6 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 1.79E+01 |
| LADD (mg/kg-day) | 2.26E+00 | 1.53E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 3.397E+00 |





Daily Doses and Risk for : >6-8 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 1.79E+01 |
| LADD (mg/kg-day) | 2.26E+00 | 1.53E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 3.397E+00 |

Daily Doses and Risk for : >8-10 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 9.69E-01 |
| LADD (mg/kg-day) | 1.22E-01 | 8.31E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.987E-01 | 3.389E+00 |

Daily Doses and Risk for : >5-7 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.57E-03 | 2.91E-02 |
| LADD (mg/kg-day) | 3.67E-03 | 2.49E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 3.393E+00 |

Daily Doses and Risk for : >7-8 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-01 | 3.87E-01 |
| LADD (mg/kg-day) | 4.89E-02 | 3.32E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.999E-01 | 3.394E+00 |

Daily Doses and Risk for : >8-10 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 1.94E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 1.66E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 3.395E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] | |
|---|---|---|---|
| TPH Aliphatic 10-16* | 2.2E+00 | 8.4E+02 | |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 | *** |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 | *** |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 | *** |
| TPH Aromatic 10-16 * | 4.5E-01 | 7.6E+02 | |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 | *** |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 | *** |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 | *** |
| >5-6 C aliphatics (TPHCWG) | 4.1E+01 | 1.2E+06 | |
| >6-8 C aliphatics (TPHCWG) | 4.1E+01 | 2.7E+05 | |
| >8-10 C aliphatics (TPHCWG) | 2.2E+00 | 3.4E+04 | |
| >5-7 C aromatics (TPHCWG) | 6.7E-02 | 0.0E+00 | *** |
| >7-8 C aromatics (TPHCWG) | 8.9E-01 | 1.5E+05 | |
| >8-10 C aromatics (TPHCWG) | 4.5E-01 | 3.1E+02 | |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of indoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] | |
|---|---|---|---|
| TPH Aliphatic 10-16* | 2.2E+00 | 8.4E+02 | |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 | |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 | *** |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 | *** |
| TPH Aromatic 10-16 * | 4.5E-01 | 7.6E+02 | |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 | |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 | *** |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 | *** |
| >5-6 C aliphatics (TPHCWG) | 4.1E+01 | 1.2E+06 | |
| >6-8 C aliphatics (TPHCWG) | 4.1E+01 | 2.7E+05 | |
| >8-10 C aliphatics (TPHCWG) | 2.2E+00 | 3.4E+04 | |
| >5-7 C aromatics (TPHCWG) | 6.7E-02 | 0.0E+00 | *** |
| >7-8 C aromatics (TPHCWG) | 8.9E-01 | 1.5E+05 | |
| >8-10 C aromatics (TPHCWG) | 4.5E-01 | 3.1E+02 | |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of indoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] | |
|---|---|---|---|
| TPH Aliphatic 10-16* | 6.0E-01 | 8.4E+02 | |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 | |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 | *** |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 | *** |
| TPH Aromatic 10-16 * | 1.2E-01 | 7.6E+02 | |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 | |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 | *** |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 | *** |
| >5-6 C aliphatics (TPHCWG) | 1.1E+01 | 1.2E+06 | |
| >6-8 C aliphatics (TPHCWG) | 1.1E+01 | 2.7E+05 | |
| >8-10 C aliphatics (TPHCWG) | 6.0E-01 | 3.4E+04 | |
| >5-7 C aromatics (TPHCWG) | 1.8E-02 | 0.0E+00 | *** |
| >7-8 C aromatics (TPHCWG) | 2.4E-01 | 1.5E+05 | |
| >8-10 C aromatics (TPHCWG) | 1.2E-01 | 3.1E+02 | |

*** SSTL exceeds maximum vapor concentration.





The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_RES_SOILGAS_INDOOR
08/31/08 16:36

Scenarios:
Child Resident - RME
Adult Resident - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
- Benzene
- Benzo-a-pyrene
- Cyclohexane
- Ethyl benzene
- Heptane, n-
- Hexane, n-
- Isobutylene (2-methyl-1-propene)
- Naphthalene
- Pentane
- Toluene
- Trimethylbenzene, 1,2,3-
- Trimethylbenzene, 1,2,4-
- Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 15.0 | 70.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF INDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 0.400 | 0.550 |
| Time indoors (hours/day) | 17.0 | 17.0 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 350. | 350. |
| Exp. Duration Indoor Air (yr) | 6.00 | 30.0 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Benzene | 1.0 | 1.0 |
| Benzo-a-pyrene | 1.0 | 1.0 |
| Cyclohexane | 1.0 | 1.0 |
| Ethyl benzene | 1.0 | 1.0 |
| Heptane, n- | 1.0 | 1.0 |
| Hexane, n- | 1.0 | 1.0 |
| Isobutylene (2-methyl-1-propene) | 1.0 | 1.0 |
| Naphthalene | 1.0 | 1.0 |
| Pentane | 1.0 | 1.0 |
| Toluene | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,3- | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,4- | 1.0 | 1.0 |
| Xylenes | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Indoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| Benzene | 1.31E-02 | 1.31E-02 |
| Benzo-a-pyrene | 9.19E-07 | 9.19E-07 |
| Cyclohexane | 3.9 | 3.9 |
| Ethyl benzene | 0.66 | 0.66 |
| Heptane, n- | 12. | 12. |
| Hexane, n- | 0.46 | 0.46 |

| | | |
|---|---|---|
| Isobutylene (2-methyl-1-propene) | 2.6 | 2.6 |
| Naphthalene | 1.97E-03 | 1.97E-03 |
| Pentane | 1.31E-02 | 1.31E-02 |
| Toluene | 0.17 | 0.17 |
| Trimethylbenzene, 1,2,3- | 3.91E-03 | 3.91E-03 |
| Trimethylbenzene, 1,2,4- | 4.60E-03 | 4.60E-03 |
| Xylenes | 6.58E-02 | 6.58E-02 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Benzene | 2.05E-02 | 2.05E-02 |
| Benzo-a-pyrene | 2.92E+02 | 2.92E+02 |
| Cyclohexane | ND | ND |
| Ethyl benzene | ND | ND |
| Heptane, n- | ND | ND |
| Hexane, n- | ND | ND |
| Isobutylene (2-methyl-1-propene) | ND | ND |
| Naphthalene | ND | ND |
| Pentane | ND | ND |
| Toluene | ND | ND |
| Trimethylbenzene, 1,2,3- | ND | ND |
| Trimethylbenzene, 1,2,4- | ND | ND |
| Xylenes | ND | ND |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Benzene | ND | ND |
| Benzo-a-pyrene | ND | ND |
| Cyclohexane | 1.7 | 1.7 |
| Ethyl benzene | 0.29 | 0.29 |
| Heptane, n- | 5.1 | 5.1 |
| Hexane, n- | 0.20 | 0.20 |
| Isobutylene (2-methyl-1-propene) | 1.1 | 1.1 |
| Naphthalene | 8.57E-04 | 8.57E-04 |
| Pentane | 5.71E-03 | 5.71E-03 |
| Toluene | 7.43E-02 | 7.43E-02 |
| Trimethylbenzene, 1,2,3- | 1.70E-03 | 1.70E-03 |
| Trimethylbenzene, 1,2,4- | 2.00E-03 | 2.00E-03 |
| Xylenes | 2.86E-02 | 2.86E-02 |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF INDOOR AIR

Daily Doses and Risk for : Benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.69E-03 | 1.68E-03 |
| LADD (mg/kg-day) | 4.88E-04 | 7.19E-04 |
| Cancer Risk (-) | 1.001E-05 | 1.474E-05 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 3.99E-07 | 1.18E-07 |
| LADD (mg/kg-day) | 3.42E-08 | 5.04E-08 |
| Cancer Risk (-) | 9.999E-06 | 1.473E-05 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Cyclohexane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E+00 | 5.01E-01 |
| LADD (mg/kg-day) | 1.46E-01 | 2.15E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |





| | | |
|---|---|---|
| Hazard Index (-) | 9.998E-01 | 2.946E-01 |

Daily Doses and Risk for : Ethyl benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 8.43E-02 |
| LADD (mg/kg-day) | 2.45E-02 | 3.61E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 2.947E-01 |

Daily Doses and Risk for : Heptane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.13E+00 | 1.51E+00 |
| LADD (mg/kg-day) | 4.40E-01 | 6.48E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.980E-01 | 2.940E-01 |

Daily Doses and Risk for : Hexane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-01 | 5.89E-02 |
| LADD (mg/kg-day) | 1.71E-02 | 2.53E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 2.946E-01 |

Daily Doses and Risk for : Isobutylene (2-methyl-1-propene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E+00 | 3.36E-01 |
| LADD (mg/kg-day) | 9.76E-02 | 1.44E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.991E-01 | 2.944E-01 |

Daily Doses and Risk for : Naphthalene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.56E-04 | 2.52E-04 |
| LADD (mg/kg-day) | 7.34E-05 | 1.08E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.993E-01 | 2.944E-01 |

Daily Doses and Risk for : Pentane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.69E-03 | 1.68E-03 |
| LADD (mg/kg-day) | 4.88E-04 | 7.19E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.973E-01 | 2.938E-01 |

Daily Doses and Risk for : Toluene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.43E-02 | 2.19E-02 |
| LADD (mg/kg-day) | 6.37E-03 | 9.39E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 2.948E-01 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,3-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E-03 | 5.01E-04 |
| LADD (mg/kg-day) | 1.46E-04 | 2.15E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 2.946E-01 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,4-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-03 | 5.89E-04 |
| LADD (mg/kg-day) | 1.71E-04 | 2.53E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.998E-01 | 2.946E-01 |

Daily Doses and Risk for : Xylenes

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-02 | 8.43E-03 |
| LADD (mg/kg-day) | 2.45E-03 | 3.61E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 2.947E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 1.3E-02 | 4.0E+05 |
| Benzo-a-pyrene | 9.2E-07 | 7.5E-05 |
| Cyclohexane | 3.9E+00 | 2.8E+05 |
| Ethyl benzene | 6.6E-01 | 5.5E+04 |
| Heptane, n- | 1.2E+01 | 2.2E+05 |
| Hexane, n- | 4.6E-01 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 2.6E+00 | 2.3E+06 |
| Naphthalene | 2.0E-03 | 6.1E+02 |
| Pentane | 1.3E-02 | 1.8E+06 |
| Toluene | 1.7E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 3.9E-03 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 4.6E-03 | 1.0E+04 |
| Xylenes | 6.6E-02 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_RES_SOILGAS_INDOOR
07/03/08 12:06

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
Carbon tetrachloride (Tetrachlorome
Chloroform (Trichloromethane)
Cyclopentane, methyl-
Dichlorofluoromethane
Methylene chloride (dichloromethane

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF INDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 0.500 | 0.440 |
| Time indoors (hours/day) | 17.0 | 17.0 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 350. | 350. |
| Exp. Duration Indoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Carbon tetrachloride (Tetrachlorome | 1.0 | 1.0 |
| Chloroform (Trichloromethane) | 1.0 | 1.0 |
| Cyclopentane, methyl- | 1.0 | 1.0 |
| Dichlorofluoromethane | 1.0 | 1.0 |
| Methylene chloride (dichloromethane | 1.0 | 1.0 |

MEDIA CONCENTRATIONS
---
Concentration in Indoor Air (mg/m^3)
- Used to calculate risk and hazard index.





| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 3.82E-03 | 3.82E-03 |
| Chloroform (Trichloromethane) | 2.47E-03 | 2.47E-03 |
| Cyclopentane, methyl- | 2.5 | 2.5 |
| Dichlorofluoromethane | 8.59E-02 | 8.59E-02 |
| Methylene chloride (dichloromethane | 0.12 | 0.12 |

SLOPE FACTORS AND REFERENCE DOSES
---

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 5.25E-02 | 5.25E-02 |
| Chloroform (Trichloromethane) | 8.10E-02 | 8.10E-02 |
| Cyclopentane, methyl- | ND | ND |
| Dichlorofluoromethane | ND | ND |
| Methylene chloride (dichloromethane | 1.65E-03 | 1.65E-03 |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 0.54 | 0.54 |
| Chloroform (Trichloromethane) | 2.80E-02 | 2.80E-02 |
| Cyclopentane, methyl- | 0.29 | 0.29 |
| Dichlorofluoromethane | 1.00E-02 | 1.00E-02 |
| Methylene chloride (dichloromethane | 0.30 | 0.30 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

INHALATION OF INDOOR AIR

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.45E-04 | 1.83E-03 |
| LADD (mg/kg-day) | 1.91E-04 | 1.57E-04 |
| Cancer Risk (-) | 1.001E-05 | 8.220E-06 |
| Hazard Index (-) | 8.237E-04 | 3.383E-03 |

Daily Doses and Risk for : Chloroform (Trichloromethane)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.88E-04 | 1.18E-03 |
| LADD (mg/kg-day) | 1.23E-04 | 1.01E-04 |
| Cancer Risk (-) | 9.984E-06 | 8.200E-06 |
| Hazard Index (-) | 1.027E-02 | 4.218E-02 |

Daily Doses and Risk for : Cyclopentane, methyl-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.18E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.01E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 4.113E+00 |

Daily Doses and Risk for : Dichlorofluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.00E-02 | 4.11E-02 |
| LADD (mg/kg-day) | 4.29E-03 | 3.52E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.108E+00 |

Daily Doses and Risk for : Methylene chloride (dichloromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.41E-02 | 5.79E-02 |
| LADD (mg/kg-day) | 6.04E-03 | 4.96E-03 |
| Cancer Risk (-) | 9.963E-06 | 8.183E-06 |
| Hazard Index (-) | 4.696E-02 | 1.929E-01 |

SUMMARY OF CLEAN-UP LEVELS
---

INH-SG-RES-INDOOR

| Clean-up Levels in Indoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 3.8E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 2.5E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 2.5E+00 | 4.9E+05 |
| Dichlorofluoromethane | 8.6E-02 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.2E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 5.1E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 3.3E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 6.6E-01 | 4.9E+05 |
| Dichlorofluoromethane | 2.3E-02 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.6E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

RESIDENCIAL INHALACIÓN OUTDOOR

Title:
13506_RESIDENCIAL-OUTDOOR
08/31/08 17:52

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
- Acetone (2-propanone)
- Butanol, n-
- Ethyl-2-methyl benzene, 1-
- Formaldehyde
- Isopropyl alcohol
- Tert-butyl alcohol (2-methyl-2-prop

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 1.00 | 1.00 |
| Time outdoors (hours/day) | 7.00 | 7.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Acetone (2-propanone) | 1.0 | 1.0 |
| Butanol, n- | 1.0 | 1.0 |
| Ethyl-2-methyl benzene, 1- | 1.0 | 1.0 |
| Formaldehyde | 1.0 | 1.0 |
| Isopropyl alcohol | 1.0 | 1.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| Acetone (2-propanone) | 1.08E+02 | 1.08E+02 |
| Butanol, n- | 0.27 | 0.27 |
| Ethyl-2-methyl benzene, 1- | 1.4 | 1.4 |
| Formaldehyde | 6.24E-03 | 6.24E-03 |
| Isopropyl alcohol | 2.4 | 2.4 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 | 1.0 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Acetone (2-propanone) | ND | ND |
| Butanol, n- | ND | ND |
| Ethyl-2-methyl benzene, 1- | ND | ND |
| Formaldehyde | 4.55E-02 | 4.55E-02 |
| Isopropyl alcohol | ND | ND |
| Tert-butyl alcohol (2-methyl-2-prop | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |





| | | |
|---|---|---|
| Acetone (2-propanone) | 8.8 | 8.8 |
| Butanol, n- | 2.20E-02 | 2.20E-02 |
| Ethyl-2-methyl benzene, 1- | 0.11 | 0.11 |
| Formaldehyde | 2.80E-03 | 2.80E-03 |
| Isopropyl alcohol | 0.20 | 0.20 |
| Tert-butyl alcohol (2-methyl-2-prop | 8.60E-02 | 8.60E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF OUTDOOR AIR** | | |
| Daily Doses and Risk for : Acetone (2-propanone) | | |
| CADD (mg/kg-day) | 8.88E+00 | 4.14E+01 |
| LADD (mg/kg-day) | 3.80E+00 | 3.55E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.686E+00 |
| Daily Doses and Risk for : Butanol, n- | | |
| CADD (mg/kg-day) | 2.20E-02 | 1.03E-01 |
| LADD (mg/kg-day) | 9.44E-03 | 8.81E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.672E+00 |
| Daily Doses and Risk for : Ethyl-2-methyl benzene, 1- | | |
| CADD (mg/kg-day) | 1.14E-01 | 5.33E-01 |
| LADD (mg/kg-day) | 4.90E-02 | 4.57E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 4.677E+00 |
| Daily Doses and Risk for : Formaldehyde | | |
| CADD (mg/kg-day) | 5.13E-04 | 2.39E-03 |
| LADD (mg/kg-day) | 2.20E-04 | 2.05E-04 |
| Cancer Risk (-) | 1.000E-05 | 9.334E-06 |
| Hazard Index (-) | 1.832E-01 | 8.548E-01 |
| Daily Doses and Risk for : Isopropyl alcohol | | |
| CADD (mg/kg-day) | 2.00E-01 | 9.32E-01 |
| LADD (mg/kg-day) | 8.56E-02 | 7.99E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.986E-01 | 4.660E+00 |
| Daily Doses and Risk for : Tert-butyl alcohol (2-methyl-2-prop | | |
| CADD (mg/kg-day) | 8.63E-02 | 4.03E-01 |
| LADD (mg/kg-day) | 3.70E-02 | 3.45E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.004E+00 | 4.683E+00 |

**SUMMARY OF CLEAN-UP LEVELS**

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 1.1E+02 | 1.6E+06 |
| Butanol, n- | 2.7E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 1.4E+00 | 1.6E+04 |
| Formaldehyde | 6.2E-03 | 5.6E+03 |
| Isopropyl alcohol | 2.4E+00 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 1.0E+00 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 2.3E+01 | 1.6E+06 |
| Butanol, n- | 5.7E-02 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 3.0E-01 | 1.6E+04 |
| Formaldehyde | 6.7E-03 | 5.6E+03 |
| Isopropyl alcohol | 5.2E-01 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 2.2E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_RES_SOILGAS_OUTDOOR
08/31/08 18:03

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Benzene
Benzo-a-pyrene
Cyclohexane
Ethyl benzene
Heptane, n-
Hexane, n-
Isobutylene (2-methyl-1-propene)
Naphthalene
Pentane
Toluene
Trimethylbenzene, 1,2,3-
Trimethylbenzene, 1,2,4-
Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 1.00 | 1.00 |
| Time outdoors (hours/day) | 7.00 | 7.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Benzene | 1.0 | 1.0 |





| | | |
|---|---|---|
| Benzo-a-pyrene | 1.0 | 1.0 |
| Cyclohexane | 1.0 | 1.0 |
| Ethyl benzene | 1.0 | 1.0 |
| Heptane, n- | 1.0 | 1.0 |
| Hexane, n- | 1.0 | 1.0 |
| Isobutylene (2-methyl-1-propene) | 1.0 | 1.0 |
| Naphthalene | 1.0 | 1.0 |
| Pentane | 1.0 | 1.0 |
| Toluene | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,3- | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,4- | 1.0 | 1.0 |
| Xylenes | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Outdoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | | |
|---|---|---|
| Benzene | 1.38E-02 | 1.38E-02 |
| Benzo-a-pyrene | 9.72E-07 | 9.72E-07 |
| Cyclohexane | 21. | 21. |
| Ethyl benzene | 3.5 | 3.5 |
| Heptane, n- | 62. | 62. |
| Hexane, n- | 2.4 | 2.4 |
| Isobutylene (2-methyl-1-propene) | 14. | 14. |
| Naphthalene | 1.04E-02 | 1.04E-02 |
| Pentane | 6.95E-02 | 6.95E-02 |
| Toluene | 0.90 | 0.90 |
| Trimethylbenzene, 1,2,3- | 2.09E-02 | 2.09E-02 |
| Trimethylbenzene, 1,2,4- | 2.43E-02 | 2.43E-02 |
| Xylenes | 0.35 | 0.35 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Benzene | 2.05E-02 | 2.05E-02 |
| Benzo-a-pyrene | 2.92E+02 | 2.92E+02 |
| Cyclohexane | ND | ND |
| Ethyl benzene | ND | ND |
| Heptane, n- | ND | ND |
| Hexane, n- | ND | ND |
| Isobutylene (2-methyl-1-propene) | ND | ND |
| Naphthalene | ND | ND |
| Pentane | ND | ND |
| Toluene | ND | ND |
| Trimethylbenzene, 1,2,3- | ND | ND |
| Trimethylbenzene, 1,2,4- | ND | ND |
| Xylenes | ND | ND |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Benzene | ND | ND |
| Benzo-a-pyrene | ND | ND |
| Cyclohexane | 1.7 | 1.7 |
| Ethyl benzene | 0.29 | 0.29 |
| Heptane, n- | 5.1 | 5.1 |
| Hexane, n- | 0.20 | 0.20 |
| Isobutylene (2-methyl-1-propene) | 1.1 | 1.1 |
| Naphthalene | 8.57E-04 | 8.57E-04 |
| Pentane | 5.71E-03 | 5.71E-03 |
| Toluene | 7.43E-02 | 7.43E-02 |
| Trimethylbenzene, 1,2,3- | 1.71E-03 | 1.71E-03 |
| Trimethylbenzene, 1,2,4- | 2.00E-03 | 2.00E-03 |
| Xylenes | 2.86E-02 | 2.86E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

---

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : Benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.13E-03 | 5.29E-03 |
| LADD (mg/kg-day) | 4.86E-04 | 4.54E-04 |
| Cancer Risk (-) | 9.965E-06 | 9.301E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.99E-08 | 3.73E-07 |
| LADD (mg/kg-day) | 3.42E-08 | 3.20E-08 |
| Cancer Risk (-) | 9.998E-06 | 9.331E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Cyclohexane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E+00 | 7.94E+00 |
| LADD (mg/kg-day) | 7.29E-01 | 6.81E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.670E+00 |

Daily Doses and Risk for : Ethyl benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.33E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.14E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

Daily Doses and Risk for : Heptane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.14E+00 | 2.40E+01 |
| LADD (mg/kg-day) | 2.20E+00 | 2.05E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 4.664E+00 |

Daily Doses and Risk for : Hexane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-01 | 9.32E-01 |
| LADD (mg/kg-day) | 8.56E-02 | 7.99E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.986E-01 | 4.660E+00 |

Daily Doses and Risk for : Isobutylene (2-methyl-1-propene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E+00 | 5.33E+00 |
| LADD (mg/kg-day) | 4.90E-01 | 4.57E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 4.677E+00 |

Daily Doses and Risk for : Naphthalene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.55E-04 | 3.99E-03 |
| LADD (mg/kg-day) | 3.66E-04 | 3.42E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.974E-01 | 4.655E+00 |

Daily Doses and Risk for : Pentane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-03 | 2.67E-02 |
| LADD (mg/kg-day) | 2.45E-03 | 2.28E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.669E+00 |

Daily Doses and Risk for : Toluene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.43E-02 | 3.47E-01 |
| LADD (mg/kg-day) | 3.18E-02 | 2.97E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,3-





| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.72E-03 | 8.02E-03 |
| LADD (mg/kg-day) | 7.36E-04 | 6.87E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 4.676E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,4-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-03 | 9.32E-03 |
| LADD (mg/kg-day) | 8.56E-04 | 7.99E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.986E-01 | 4.660E+00 |

Daily Doses and Risk for : Xylenes

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-02 | 1.33E-01 |
| LADD (mg/kg-day) | 1.23E-02 | 1.14E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 1.4E-02 | 4.0E+05 |
| Benzo-a-pyrene | 9.7E-07 | 7.5E-05 |
| Cyclohexane | 2.1E+01 | 2.8E+05 |
| Ethyl benzene | 3.5E+00 | 5.5E+04 |
| Heptane, n- | 6.3E+01 | 2.2E+05 |
| Hexane, n- | 2.4E+00 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 1.4E+01 | 2.3E+06 |
| Naphthalene | 1.0E-02 | 6.1E+02 |
| Pentane | 6.9E-02 | 1.8E+06 |
| Toluene | 9.0E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 2.1E-02 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 2.4E-02 | 1.0E+04 |
| Xylenes | 3.5E-01 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 1.5E-02 | 4.0E+05 |
| Benzo-a-pyrene | 1.0E-06 | 7.5E-05 |
| Cyclohexane | 4.4E+00 | 2.8E+05 |
| Ethyl benzene | 7.5E-01 | 5.5E+04 |
| Heptane, n- | 1.3E+01 | 2.2E+05 |
| Hexane, n- | 5.2E-01 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 3.0E+00 | 2.3E+06 |
| Naphthalene | 2.2E-03 | 6.1E+02 |
| Pentane | 1.5E-02 | 1.8E+06 |
| Toluene | 1.9E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 4.5E-03 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 5.2E-03 | 1.0E+04 |
| Xylenes | 7.5E-02 | 5.7E+04 |

The exposure routes that depend on this source are:

Inhalation of outdoor air

Title:
13506_RES_SOILGAS_OUTDOOR
08/31/08 18:08

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
- Chlorobenzene (Monochlorobenzene)
- Dichlorodifluoromethane
- Dichloroethane, 1,1-
- Dichloroethane, 1,2-
- Dichloroethylene, 1,1-
- Dichloroethylene, cis-1,2-
- Dichloroethylene, trans-1,2
- Dichloropropane, 1,2-
- Styrene
- Tetrachloroethane, 1,1,2,2-
- Tetrachloroethylene
- Trichloroethane, 1,1,1-
- Trichloroethane, 1,1,2- (Vinyl tric
- Trichloroethylene
- Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 1.00 | 1.00 |
| Time outdoors (hours/day) | 7.00 | 7.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Chlorobenzene (Monochlorobenzene) | 1.0 | 1.0 |
| Dichlorodifluoromethane | 1.0 | 1.0 |
| Dichloroethane, 1,1- | 1.0 | 1.0 |
| Dichloroethane, 1,2- | 1.0 | 1.0 |
| Dichloroethylene, 1,1- | 1.0 | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 | 1.0 |
| Dichloropropane, 1,2- | 1.0 | 1.0 |
| Styrene | 1.0 | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 | 1.0 |
| Tetrachloroethylene | 1.0 | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 | 1.0 |
| Trichloroethylene | 1.0 | 1.0 |
| Vinyl chloride | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| Chlorobenzene (Monochlorobenzene) | 0.17 | 0.17 |
| Dichlorodifluoromethane | 0.61 | 0.61 |





| | | |
|---|---|---|
| Dichloroethane, 1,1- | 1.2 | 1.2 |
| Dichloroethane, 1,2- | 3.12E-03 | 3.12E-03 |
| Dichloroethylene, 1,1- | 0.69 | 0.69 |
| Dichloroethylene, cis-1,2- | 2.8 | 2.8 |
| Dichloroethylene, trans-1,2 | 0.21 | 0.21 |
| Dichloropropane, 1,2- | 1.39E-02 | 1.39E-02 |
| Styrene | 0.90 | 0.90 |
| Tetrachloroethane, 1,1,2,2- | 1.40E-03 | 1.40E-03 |
| Tetrachloroethylene | 0.86 | 0.86 |
| Trichloroethane, 1,1,1- | 7.7 | 7.7 |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.07E-03 | 5.07E-03 |
| Trichloroethylene | 0.15 | 0.15 |
| Vinyl chloride | 8.11E-02 | 8.11E-02 |

**SLOPE FACTORS AND REFERENCE DOSES**

**Inhalation Slope Factor [1/(mg/kg-day)]**

| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | ND | ND |
| Dichlorodifluoromethane | ND | ND |
| Dichloroethane, 1,1- | ND | ND |
| Dichloroethane, 1,2- | 9.10E-02 | 9.10E-02 |
| Dichloroethylene, 1,1- | ND | ND |
| Dichloroethylene, cis-1,2- | ND | ND |
| Dichloroethylene, trans-1,2 | ND | ND |
| Dichloropropane, 1,2- | ND | ND |
| Styrene | ND | ND |
| Tetrachloroethane, 1,1,2,2- | 0.20 | 0.20 |
| Tetrachloroethylene | ND | ND |
| Trichloroethane, 1,1,1- | ND | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.60E-02 | 5.60E-02 |
| Trichloroethylene | 1.90E-03 | 1.90E-03 |
| Vinyl chloride | 3.50E-03 | 3.50E-03 |

**Inhalation Reference Dose (mg/kg-day)**

| | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.42E-02 | 1.42E-02 |
| Dichlorodifluoromethane | 5.00E-02 | 5.00E-02 |
| Dichloroethane, 1,1- | 0.10 | 0.10 |
| Dichloroethane, 1,2- | 0.70 | 0.70 |
| Dichloroethylene, 1,1- | 5.70E-02 | 5.70E-02 |
| Dichloroethylene, cis-1,2- | 0.23 | 0.23 |
| Dichloroethylene, trans-1,2 | 1.70E-02 | 1.70E-02 |
| Dichloropropane, 1,2- | 1.14E-03 | 1.14E-03 |
| Styrene | 7.40E-02 | 7.40E-02 |
| Tetrachloroethane, 1,1,2,2- | ND | ND |
| Tetrachloroethylene | 7.10E-02 | 7.10E-02 |
| Trichloroethane, 1,1,1- | 0.63 | 0.63 |
| Trichloroethane, 1,1,2- (Vinyl tric | ND | ND |
| Trichloroethylene | ND | ND |
| Vinyl chloride | ND | ND |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF OUTDOOR AIR** | | |
| Daily Doses and Risk for : Chlorobenzene (Monochlorobenzene) | | |
| CADD (mg/kg-day) | 1.42E-02 | 6.64E-02 |
| LADD (mg/kg-day) | 6.09E-03 | 5.69E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.673E+00 |

Daily Doses and Risk for : Dichlorodifluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.00E-02 | 2.33E-01 |
| LADD (mg/kg-day) | 2.14E-02 | 2.00E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.995E-01 | 4.664E+00 |

Daily Doses and Risk for : Dichloroethane, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.00E-01 | 4.68E-01 |
| LADD (mg/kg-day) | 4.30E-02 | 4.01E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.003E+00 | 4.679E+00 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.56E-04 | 1.20E-03 |
| LADD (mg/kg-day) | 1.10E-04 | 1.03E-04 |
| Cancer Risk (-) | 1.000E-05 | 9.334E-06 |
| Hazard Index (-) | 3.663E-04 | 1.710E-03 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.70E-02 | 2.66E-01 |
| LADD (mg/kg-day) | 2.44E-02 | 2.28E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.993E-01 | 4.663E+00 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.30E-01 | 1.07E+00 |
| LADD (mg/kg-day) | 9.86E-02 | 9.21E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.669E+00 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E-02 | 7.94E-02 |
| LADD (mg/kg-day) | 7.29E-03 | 6.81E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 4.670E+00 |

Daily Doses and Risk for : Dichloropropane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-03 | 5.33E-03 |
| LADD (mg/kg-day) | 4.90E-04 | 4.57E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 4.677E+00 |

Daily Doses and Risk for : Styrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.40E-02 | 3.45E-01 |
| LADD (mg/kg-day) | 3.17E-02 | 2.96E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.996E-01 | 4.665E+00 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.15E-04 | 5.37E-04 |
| LADD (mg/kg-day) | 4.93E-05 | 4.60E-05 |
| Cancer Risk (-) | 1.001E-05 | 9.344E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Tetrachloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.10E-02 | 3.31E-01 |
| LADD (mg/kg-day) | 3.04E-02 | 2.84E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.668E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.30E-01 | 2.94E+00 |
| LADD (mg/kg-day) | 2.70E-01 | 2.52E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.993E-01 | 4.664E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.17E-04 | 1.94E-03 |





| | | |
|---|---|---|
| LADD (mg/kg-day) | 1.79E-04 | 1.67E-04 |
| Cancer Risk (-) | 1.000E-05 | 9.334E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Trichloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.22E-02 | 5.72E-02 |
| LADD (mg/kg-day) | 5.25E-03 | 4.90E-03 |
| Cancer Risk (-) | 9.972E-06 | 9.307E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.67E-03 | 3.11E-02 |
| LADD (mg/kg-day) | 2.86E-03 | 2.67E-03 |
| Cancer Risk (-) | 9.999E-06 | 9.332E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Outdoor Air — Receptor: Adult Resident - RME

| | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.7E-01 | 9.1E+04 |
| Dichlorodifluoromethane | 6.1E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 1.2E+00 | 1.0E+06 |
| Dichloroethane, 1,2- | 3.1E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 6.9E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 2.8E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 2.1E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 1.4E-02 | 3.3E+05 |
| Styrene | 9.0E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 1.4E-03 | 4.6E+04 |
| Tetrachloroethylene | 8.6E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 7.7E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 5.1E-03 | 1.7E+05 |
| Trichloroethylene | 1.5E-01 | 3.7E+05 |
| Vinyl chloride | 8.1E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

Clean-up Levels in Outdoor Air — Receptor: Child Resident - RME

| | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 3.7E-02 | 9.1E+04 |
| Dichlorodifluoromethane | 1.3E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 2.6E-01 | 1.0E+06 |
| Dichloroethane, 1,2- | 3.3E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 1.5E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 6.0E-01 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 4.4E-02 | 2.0E+06 |
| Dichloropropane, 1,2- | 3.0E-03 | 3.3E+05 |
| Styrene | 1.9E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 1.5E-03 | 4.6E+04 |
| Tetrachloroethylene | 1.9E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 1.6E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 5.4E-03 | 1.7E+05 |
| Trichloroethylene | 1.6E-01 | 3.7E+05 |
| Vinyl chloride | 8.7E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_RES_SOILGAS_OUTDOOR
08/31/08 18:13

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
TPH Aliphatic 10-16*
TPH Aliphatic 16-22 *
TPH Aliphatic 22-30 *
TPH Aliphatic 30-40 *
TPH Aromatic 10-16 *
TPH Aromatic 16-22 *
TPH Aromatic 22-30*
TPH Aromatic 30-40 *
>5-6 C aliphatics (TPHCWG)
>6-8 C aliphatics (TPHCWG)
>8-10 C aliphatics (TPHCWG)
>5-7 C aromatics (TPHCWG)
>7-8 C aromatics (TPHCWG)
>8-10 C aromatics (TPHCWG)

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 1.00 | 1.00 |
| Time outdoors (hours/day) | 7.00 | 7.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| TPH Aliphatic 10-16* | 1.0 | 1.0 |
| TPH Aliphatic 16-22 * | 1.0 | 1.0 |
| TPH Aliphatic 22-30 * | 1.0 | 1.0 |
| TPH Aliphatic 30-40 * | 1.0 | 1.0 |
| TPH Aromatic 10-16 * | 1.0 | 1.0 |
| TPH Aromatic 16-22 * | 1.0 | 1.0 |
| TPH Aromatic 22-30* | 1.0 | 1.0 |
| TPH Aromatic 30-40 * | 1.0 | 1.0 |
| >5-6 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >6-8 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >5-7 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >7-8 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aromatics (TPHCWG) | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) - Used to calculate risk and hazard index. | | |
| TPH Aliphatic 10-16* | 3.5 | 3.5 |





| | | |
|---|---|---|
| TPH Aliphatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 22-30 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 30-40 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 10-16 * | 0.69 | 0.69 |
| TPH Aromatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 22-30* | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 30-40 * | 1.00E+06 | 1.00E+06 |
| >5-6 C aliphatics (TPHCWG) | 64. | 64. |
| >6-8 C aliphatics (TPHCWG) | 64. | 64. |
| >8-10 C aliphatics (TPHCWG) | 3.5 | 3.5 |
| >5-7 C aromatics (TPHCWG) | 0.10 | 0.10 |
| >7-8 C aromatics (TPHCWG) | 1.4 | 1.4 |
| >8-10 C aromatics (TPHCWG) | 0.69 | 0.69 |

**SLOPE FACTORS AND REFERENCE DOSES**

| | | |
|---|---|---|
| **Inhalation Slope Factor [1/(mg/kg-day)]** | | |
| TPH Aliphatic 10-16* | ND | ND |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | ND | ND |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | ND | ND |
| >6-8 C aliphatics (TPHCWG) | ND | ND |
| >8-10 C aliphatics (TPHCWG) | ND | ND |
| >5-7 C aromatics (TPHCWG) | ND | ND |
| >7-8 C aromatics (TPHCWG) | ND | ND |
| >8-10 C aromatics (TPHCWG) | ND | ND |
| **Inhalation Reference Dose (mg/kg-day)** | | |
| TPH Aliphatic 10-16* | 0.29 | 0.29 |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | 5.71E-02 | 5.71E-02 |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >6-8 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >8-10 C aliphatics (TPHCWG) | 0.29 | 0.29 |
| >5-7 C aromatics (TPHCWG) | 8.57E-03 | 8.57E-03 |
| >7-8 C aromatics (TPHCWG) | 0.11 | 0.11 |
| >8-10 C aromatics (TPHCWG) | 5.71E-02 | 5.71E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

**INHALATION OF OUTDOOR AIR**

| | | |
|---|---|---|
| **Daily Doses and Risk for : TPH Aliphatic 10-16*** | | |
| CADD (mg/kg-day) | 2.86E-01 | 1.33E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.14E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |
| **Daily Doses and Risk for : TPH Aliphatic 16-22 *** | | |
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |

| | | |
|---|---|---|
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 22-30 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 10-16 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 2.67E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 2.28E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.669E+00 |

Daily Doses and Risk for : TPH Aromatic 16-22 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 22-30*

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.22E+04 | 3.84E+05 |
| LADD (mg/kg-day) | 3.52E+04 | 3.29E+04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : >5-6 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 2.45E+01 |
| LADD (mg/kg-day) | 2.25E+00 | 2.10E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

Daily Doses and Risk for : >6-8 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.26E+00 | 2.45E+01 |
| LADD (mg/kg-day) | 2.25E+00 | 2.10E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

Daily Doses and Risk for : >8-10 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 1.33E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.14E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |

Daily Doses and Risk for : >5-7 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.55E-03 | 3.99E-02 |
| LADD (mg/kg-day) | 3.66E-03 | 3.42E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.974E-01 | 4.655E+00 |

Daily Doses and Risk for : >7-8 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-01 | 5.33E-01 |
| LADD (mg/kg-day) | 4.90E-02 | 4.57E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |





| | | |
|---|---|---|
| Hazard Index (-) | 1.002E+00 | 4.677E+00 |

Daily Doses and Risk for : >8-10 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 2.67E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 2.28E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.669E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| TPH Aliphatic 10-16* | 3.5E+00 | 8.4E+02 |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 |
| *** TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** TPH Aromatic 10-16 * | 6.9E-01 | 7.6E+02 |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** >5-6 C aliphatics (TPHCWG) | 6.4E+01 | 1.2E+06 |
| >6-8 C aliphatics (TPHCWG) | 6.4E+01 | 2.7E+05 |
| >8-10 C aliphatics (TPHCWG) | 3.5E+00 | 3.4E+04 |
| >5-7 C aromatics (TPHCWG) | 1.0E-01 | 0.0E+00 |
| *** >7-8 C aromatics (TPHCWG) | 1.4E+00 | 1.5E+05 |
| >8-10 C aromatics (TPHCWG) | 6.9E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| TPH Aliphatic 10-16* | 7.5E-01 | 8.4E+02 |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 |
| *** TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** TPH Aromatic 10-16 * | 1.5E-01 | 7.6E+02 |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** >5-6 C aliphatics (TPHCWG) | 1.4E+01 | 1.2E+06 |
| >6-8 C aliphatics (TPHCWG) | 1.4E+01 | 2.7E+05 |

| | | |
|---|---|---|
| >8-10 C aliphatics (TPHCWG) | 7.5E-01 | 3.4E+04 |
| >5-7 C aromatics (TPHCWG) | 2.2E-02 | 0.0E+00 |
| *** | | |
| >7-8 C aromatics (TPHCWG) | 3.0E-01 | 1.5E+05 |
| >8-10 C aromatics (TPHCWG) | 1.5E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_RES_SOILGAS_OUTDOOR
08/31/08 18:18

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Carbon tetrachloride (Tetrachlorome
Chloroform (Trichloromethane)
Cyclopentane, methyl-
Dichlorofluoromethane
Methylene chloride (dichloromethane

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 1.00 | 1.00 |
| Time outdoors (hours/day) | 7.00 | 7.00 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 300. | 300. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Carbon tetrachloride (Tetrachlorome | 1.0 | 1.0 |
| Chloroform (Trichloromethane) | 1.0 | 1.0 |
| Cyclopentane, methyl- | 1.0 | 1.0 |
| Dichlorofluoromethane | 1.0 | 1.0 |
| Methylene chloride (dichloromethane | 1.0 | 1.0 |
| MEDIA CONCENTRATIONS | | |
| Concentration in Outdoor Air (mg/m^3) | | |
| - Used to calculate risk and hazard index. | | |
| Carbon tetrachloride (Tetrachlorome | 5.41E-03 | 5.41E-03 |
| Chloroform (Trichloromethane) | 3.51E-03 | 3.51E-03 |
| Cyclopentane, methyl- | 3.5 | 3.5 |
| Dichlorofluoromethane | 0.12 | 0.12 |
| Methylene chloride (dichloromethane | 0.17 | 0.17 |
| SLOPE FACTORS AND REFERENCE DOSES | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Carbon tetrachloride (Tetrachlorome | 5.25E-02 | 5.25E-02 |
| Chloroform (Trichloromethane) | 8.10E-02 | 8.10E-02 |





| | | |
|---|---|---|
| Cyclopentane, methyl- | ND | ND |
| Dichlorofluoromethane | ND | ND |
| Methylene chloride (dichloromethane | 1.65E-03 | 1.65E-03 |
| Inhalation Reference Dose (mg/kg-day) | | |
| Carbon tetrachloride (Tetrachlorome | 0.54 | 0.54 |
| Chloroform (Trichloromethane) | 2.80E-02 | 2.80E-02 |
| Cyclopentane, methyl- | 0.29 | 0.29 |
| Dichlorofluoromethane | 1.00E-02 | 1.00E-02 |
| Methylene chloride (dichloromethane | 0.30 | 0.30 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

INHALATION OF OUTDOOR AIR

| | | |
|---|---|---|
| Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome | | |
| CADD (mg/kg-day) | 4.45E-04 | 2.08E-03 |
| LADD (mg/kg-day) | 1.91E-04 | 1.78E-04 |
| Cancer Risk (-) | 1.000E-05 | 9.338E-06 |
| Hazard Index (-) | 8.234E-04 | 3.843E-03 |
| Daily Doses and Risk for : Chloroform (Trichloromethane) | | |
| CADD (mg/kg-day) | 2.88E-04 | 1.35E-03 |
| LADD (mg/kg-day) | 1.24E-04 | 1.15E-04 |
| Cancer Risk (-) | 1.001E-05 | 9.347E-06 |
| Hazard Index (-) | 1.030E-02 | 4.808E-02 |
| Daily Doses and Risk for : Cyclopentane, methyl- | | |
| CADD (mg/kg-day) | 2.86E-01 | 1.33E+00 |
| LADD (mg/kg-day) | 1.23E-01 | 1.14E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 4.667E+00 |
| Daily Doses and Risk for : Dichlorofluoromethane | | |
| CADD (mg/kg-day) | 1.00E-02 | 4.68E-02 |
| LADD (mg/kg-day) | 4.30E-03 | 4.01E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.003E+00 | 4.679E+00 |
| Daily Doses and Risk for : Methylene chloride (dichloromethane | | |
| CADD (mg/kg-day) | 1.41E-02 | 6.60E-02 |
| LADD (mg/kg-day) | 6.06E-03 | 5.65E-03 |
| Cancer Risk (-) | 9.997E-06 | 9.330E-06 |
| Hazard Index (-) | 4.712E-02 | 2.199E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 5.4E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 3.5E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 3.5E+00 | 4.9E+05 |
| Dichlorofluoromethane | 1.2E-01 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.7E-01 | 1.4E+06 |

The exposure routes that depend on this source are:

INH-SG-RES-OUT

Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 5.8E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 3.8E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 7.5E-01 | 4.9E+05 |
| Dichlorofluoromethane | 2.6E-02 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.8E-01 | 1.4E+06 |

The exposure routes that depend on this source are:

Inhalation of outdoor air

DEPORTIVO SG INHALACIÓN EXTERIORES

Title:
13506_sport-OUTDOOR
08/31/08 19:14

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
- Acetone (2-propanone)
- Butanol, n-
- Ethyl-2-methyl benzene, 1-
- Formaldehyde
- Isopropyl alcohol
- Tert-butyl alcohol (2-methyl-2-prop

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 3.90 | 2.40 |
| Time outdoors (hours/day) | 1.50 | 1.50 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 208. | 130. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Acetone (2-propanone) | 1.0 | 1.0 |
| Butanol, n- | 1.0 | 1.0 |
| Ethyl-2-methyl benzene, 1- | 1.0 | 1.0 |
| Formaldehyde | 1.0 | 1.0 |
| Isopropyl alcohol | 1.0 | 1.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 | 1.0 |
| **MEDIA CONCENTRATIONS** | | |
| Concentration in Outdoor Air (mg/m^3) | | |
| - Used to calculate risk and hazard index. | | |
| Acetone (2-propanone) | 1.86E+02 | 1.86E+02 |
| Butanol, n- | 0.46 | 0.46 |
| Ethyl-2-methyl benzene, 1- | 2.4 | 2.4 |
| Formaldehyde | 1.08E-02 | 1.08E-02 |
| Isopropyl alcohol | 4.2 | 4.2 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.8 | 1.8 |
| **SLOPE FACTORS AND REFERENCE DOSES** | | |
| Inhalation Slope Factor [1/(mg/kg-day)] | | |
| Acetone (2-propanone) | ND | ND |
| Butanol, n- | ND | ND |
| Ethyl-2-methyl benzene, 1- | ND | ND |
| Formaldehyde | 4.55E-02 | 4.55E-02 |
| Isopropyl alcohol | ND | ND |
| Tert-butyl alcohol (2-methyl-2-prop | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |
| Acetone (2-propanone) | 8.8 | 8.8 |





| | | |
|---|---|---|
| Butanol, n- | 2.20E-02 | 2.20E-02 |
| Ethyl-2-methyl benzene, 1- | 0.11 | 0.11 |
| Formaldehyde | 2.80E-03 | 2.80E-03 |
| Isopropyl alcohol | 0.20 | 0.20 |
| Tert-butyl alcohol (2-methyl-2-prop | 8.60E-02 | 8.60E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|
| **INHALATION OF OUTDOOR AIR** | | |
| Daily Doses and Risk for : Acetone (2-propanone) | | |
| CADD (mg/kg-day) | 8.86E+00 | 1.59E+01 |
| LADD (mg/kg-day) | 3.80E+00 | 1.36E+00 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 1.799E+00 |
| Daily Doses and Risk for : Butanol, n- | | |
| CADD (mg/kg-day) | 2.20E-02 | 3.95E-02 |
| LADD (mg/kg-day) | 9.43E-03 | 3.38E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |
| Daily Doses and Risk for : Ethyl-2-methyl benzene, 1- | | |
| CADD (mg/kg-day) | 1.14E-01 | 2.04E-01 |
| LADD (mg/kg-day) | 4.88E-02 | 1.75E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.984E-01 | 1.792E+00 |
| Daily Doses and Risk for : Formaldehyde | | |
| CADD (mg/kg-day) | 5.14E-04 | 9.23E-04 |
| LADD (mg/kg-day) | 2.20E-04 | 7.91E-05 |
| Cancer Risk (-) | 1.003E-05 | 3.600E-06 |
| Hazard Index (-) | 1.837E-01 | 3.297E-01 |
| Daily Doses and Risk for : Isopropyl alcohol | | |
| CADD (mg/kg-day) | 2.00E-01 | 3.59E-01 |
| LADD (mg/kg-day) | 8.57E-02 | 3.08E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |
| Daily Doses and Risk for : Tert-butyl alcohol (2-methyl-2-prop | | |
| CADD (mg/kg-day) | 8.62E-02 | 1.55E-01 |
| LADD (mg/kg-day) | 3.69E-02 | 1.33E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.002E+00 | 1.799E+00 |

**SUMMARY OF CLEAN-UP LEVELS**

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 1.9E+02 | 1.6E+06 |
| Butanol, n- | 4.6E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 2.4E+00 | 1.6E+04 |
| Formaldehyde | 1.1E-02 | 5.6E+03 |
| Isopropyl alcohol | 4.2E+00 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 1.8E+00 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 1.0E+02 | 1.6E+06 |
| Butanol, n- | 2.6E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 1.3E+00 | 1.6E+04 |
| Formaldehyde | 3.0E-02 | 5.6E+03 |
| Isopropyl alcohol | 2.3E+00 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 1.0E+00 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506 SPORT_SOILGAS_OUTDOOR
08/31/08 19:21

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Chlorobenzene (Monochlorobenzene)
Dichlorodifluoromethane
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Dichloropropane, 1,2-
Styrene
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 3.90 | 2.40 |
| Time outdoors (hours/day) | 1.50 | 1.50 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 208. | 130. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for | | |





| | | |
|---|---|---|
| Inhalation (-) | | |
| Chlorobenzene (Monochlorobenzene) | 1.0 | 1.0 |
| Dichlorodifluoromethane | 1.0 | 1.0 |
| Dichloroethane, 1,1- | 1.0 | 1.0 |
| Dichloroethane, 1,2- | 1.0 | 1.0 |
| Dichloroethylene, 1,1- | 1.0 | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 | 1.0 |
| Dichloropropane, 1,2- | 1.0 | 1.0 |
| Styrene | 1.0 | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 | 1.0 |
| Tetrachloroethylene | 1.0 | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 | 1.0 |
| Trichloroethylene | 1.0 | 1.0 |
| Vinyl chloride | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

| Concentration in Outdoor Air (mg/m^3)<br>- Used to calculate risk and hazard index. | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 0.30 | 0.30 |
| Dichlorodifluoromethane | 1.0 | 1.0 |
| Dichloroethane, 1,1- | 2.1 | 2.1 |
| Dichloroethane, 1,2- | 5.39E-03 | 5.39E-03 |
| Dichloroethylene, 1,1- | 1.2 | 1.2 |
| Dichloroethylene, cis-1,2- | 4.8 | 4.8 |
| Dichloroethylene, trans-1,2 | 0.36 | 0.36 |
| Dichloropropane, 1,2- | 2.39E-02 | 2.39E-02 |
| Styrene | 1.5 | 1.5 |
| Tetrachloroethane, 1,1,2,2- | 2.41E-03 | 2.41E-03 |
| Tetrachloroethylene | 1.5 | 1.5 |
| Trichloroethane, 1,1,1- | 13. | 13. |
| Trichloroethane, 1,1,2- (Vinyl tric | 8.75E-03 | 8.75E-03 |
| Trichloroethylene | 0.26 | 0.26 |
| Vinyl chloride | 0.14 | 0.14 |

SLOPE FACTORS AND REFERENCE DOSES

| Inhalation Slope Factor [1/(mg/kg-day)] | | |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | ND | ND |
| Dichlorodifluoromethane | ND | ND |
| Dichloroethane, 1,1- | ND | ND |
| Dichloroethane, 1,2- | 9.10E-02 | 9.10E-02 |
| Dichloroethylene, 1,1- | ND | ND |
| Dichloroethylene, cis-1,2- | ND | ND |
| Dichloroethylene, trans-1,2 | ND | ND |
| Dichloropropane, 1,2- | ND | ND |
| Styrene | ND | ND |
| Tetrachloroethane, 1,1,2,2- | 0.20 | 0.20 |
| Tetrachloroethylene | ND | ND |
| Trichloroethane, 1,1,1- | ND | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.60E-02 | 5.60E-02 |
| Trichloroethylene | 1.90E-03 | 1.90E-03 |
| Vinyl chloride | 3.50E-03 | 3.50E-03 |
| Inhalation Reference Dose (mg/kg-day) | | |
| Chlorobenzene (Monochlorobenzene) | 1.42E-02 | 1.42E-02 |
| Dichlorodifluoromethane | 5.00E-02 | 5.00E-02 |
| Dichloroethane, 1,1- | 0.10 | 0.10 |
| Dichloroethane, 1,2- | 0.70 | 0.70 |
| Dichloroethylene, 1,1- | 5.70E-02 | 5.70E-02 |
| Dichloroethylene, cis-1,2- | 0.23 | 0.23 |
| Dichloroethylene, trans-1,2 | 1.70E-02 | 1.70E-02 |
| Dichloropropane, 1,2- | 1.14E-03 | 1.14E-03 |
| Styrene | 7.40E-02 | 7.40E-02 |
| Tetrachloroethane, 1,1,2,2- | ND | ND |

| | | |
|---|---|---|
| Tetrachloroethylene | 7.10E-02 | 7.10E-02 |
| Trichloroethane, 1,1,1- | 0.63 | 0.63 |
| Trichloroethane, 1,1,2- (Vinyl tric | ND | ND |
| Trichloroethylene | ND | ND |
| Vinyl chloride | ND | ND |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : Chlorobenzene (Monochlorobenzene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.42E-02 | 2.55E-02 |
| LADD (mg/kg-day) | 6.08E-03 | 2.18E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 1.794E+00 |

Daily Doses and Risk for : Dichlorodifluoromethane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.00E-02 | 8.98E-02 |
| LADD (mg/kg-day) | 2.14E-02 | 7.69E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Dichloroethane, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.00E-01 | 1.80E-01 |
| LADD (mg/kg-day) | 4.29E-02 | 1.54E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Dichloroethane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.57E-04 | 4.61E-04 |
| LADD (mg/kg-day) | 1.10E-04 | 3.95E-05 |
| Cancer Risk (-) | 1.001E-05 | 3.594E-06 |
| Hazard Index (-) | 3.667E-04 | 6.582E-04 |

Daily Doses and Risk for : Dichloroethylene, 1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 1.03E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 8.79E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.003E+00 | 1.800E+00 |

Daily Doses and Risk for : Dichloroethylene, cis-1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.30E-01 | 4.13E-01 |
| LADD (mg/kg-day) | 9.86E-02 | 3.54E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Dichloroethylene, trans-1,2

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E-02 | 3.05E-02 |
| LADD (mg/kg-day) | 7.29E-03 | 2.62E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Dichloropropane, 1,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-03 | 2.04E-03 |
| LADD (mg/kg-day) | 4.88E-04 | 1.75E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.984E-01 | 1.792E+00 |

Daily Doses and Risk for : Styrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.38E-02 | 1.32E-01 |
| LADD (mg/kg-day) | 3.16E-02 | 1.14E-02 |





| | | |
|---|---|---|
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.975E-01 | 1.790E+00 |

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.15E-04 | 2.06E-04 |
| LADD (mg/kg-day) | 4.92E-05 | 1.77E-05 |
| Cancer Risk (-) | 9.985E-06 | 3.584E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Tetrachloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.10E-02 | 1.27E-01 |
| LADD (mg/kg-day) | 3.04E-02 | 1.09E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 | 1.794E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,1-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.29E-01 | 1.13E+00 |
| LADD (mg/kg-day) | 2.69E-01 | 9.67E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.978E-01 | 1.791E+00 |

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.17E-04 | 7.48E-04 |
| LADD (mg/kg-day) | 1.79E-04 | 6.41E-05 |
| Cancer Risk (-) | 1.000E-05 | 3.590E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Trichloroethylene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.23E-02 | 2.21E-02 |
| LADD (mg/kg-day) | 5.27E-03 | 1.89E-03 |
| Cancer Risk (-) | 1.001E-05 | 3.592E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Vinyl chloride

| | | |
|---|---|---|
| CADD (mg/kg-day) | 6.67E-03 | 1.20E-02 |
| LADD (mg/kg-day) | 2.86E-03 | 1.03E-03 |
| Cancer Risk (-) | 1.000E-05 | 3.590E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

SUMMARY OF CLEAN-UP LEVELS

---

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 3.0E-01 | 9.1E+04 |
| Dichlorodifluoromethane | 1.0E+00 | 4.7E+06 |
| Dichloroethane, 1,1- | 2.1E+00 | 1.0E+06 |
| Dichloroethane, 1,2- | 5.4E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 1.2E+00 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 4.8E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 3.6E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 2.4E-02 | 3.3E+05 |
| Styrene | 1.6E+00 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 2.4E-03 | 4.6E+04 |
| Tetrachloroethylene | 1.5E+00 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 1.3E+01 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 8.7E-03 | 1.7E+05 |
| Trichloroethylene | 2.6E-01 | 3.7E+05 |
| Vinyl chloride | 1.4E-01 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.7E-01 | 9.1E+04 |
| Dichlorodifluoromethane | 5.8E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 1.2E+00 | 1.0E+06 |
| Dichloroethane, 1,2- | 1.5E-02 | 2.8E+05 |
| Dichloroethylene, 1,1- | 6.7E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 2.7E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 2.0E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 1.3E-02 | 3.3E+05 |
| Styrene | 8.7E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 6.7E-03 | 4.6E+04 |
| Tetrachloroethylene | 8.3E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 7.4E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 2.4E-02 | 1.7E+05 |
| Trichloroethylene | 7.2E-01 | 3.7E+05 |
| Vinyl chloride | 3.9E-01 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_SPORT_SOILGAS_OUTDOOR
08/31/08 19:28

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Benzene
Benzo-a-pyrene
Cyclohexane
Ethyl benzene
Heptane, n-
Hexane, n-
Isobutylene (2-methyl-1-propene)
Naphthalene
Pentane
Toluene
Trimethylbenzene, 1,2,3-
Trimethylbenzene, 1,2,4-
Xylenes

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |





| | | |
|---|---|---|
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 3.90 | 2.40 |
| Time outdoors (hours/day) | 1.50 | 1.50 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 208. | 130. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Benzene | 1.0 | 1.0 |
| Benzo-a-pyrene | 1.0 | 1.0 |
| Cyclohexane | 1.0 | 1.0 |
| Ethyl benzene | 1.0 | 1.0 |
| Heptane, n- | 1.0 | 1.0 |
| Hexane, n- | 1.0 | 1.0 |
| Isobutylene (2-methyl-1-propene) | 1.0 | 1.0 |
| Naphthalene | 1.0 | 1.0 |
| Pentane | 1.0 | 1.0 |
| Toluene | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,3- | 1.0 | 1.0 |
| Trimethylbenzene, 1,2,4- | 1.0 | 1.0 |
| Xylenes | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

| Concentration in Outdoor Air (mg/m^3)<br>- Used to calculate risk and hazard index. | | |
|---|---|---|
| Benzene | 2.39E-02 | 2.39E-02 |
| Benzo-a-pyrene | 1.68E-06 | 1.68E-06 |
| Cyclohexane | 36. | 36. |
| Ethyl benzene | 6.0 | 6.0 |
| Heptane, n- | 1.08E+02 | 1.08E+02 |
| Hexane, n- | 4.2 | 4.2 |
| Isobutylene (2-methyl-1-propene) | 24. | 24. |
| Naphthalene | 1.80E-02 | 1.80E-02 |
| Pentane | 0.12 | 0.12 |
| Toluene | 1.6 | 1.6 |
| Trimethylbenzene, 1,2,3- | 3.60E-02 | 3.60E-02 |
| Trimethylbenzene, 1,2,4- | 4.20E-02 | 4.20E-02 |
| Xylenes | 0.60 | 0.60 |

SLOPE FACTORS AND REFERENCE DOSES

| Inhalation Slope Factor [1/(mg/kg-day)] | | |
|---|---|---|
| Benzene | 2.05E-02 | 2.05E-02 |
| Benzo-a-pyrene | 2.92E+02 | 2.92E+02 |
| Cyclohexane | ND | ND |
| Ethyl benzene | ND | ND |
| Heptane, n- | ND | ND |
| Hexane, n- | ND | ND |
| Isobutylene (2-methyl-1-propene) | ND | ND |
| Naphthalene | ND | ND |
| Pentane | ND | ND |
| Toluene | ND | ND |
| Trimethylbenzene, 1,2,3- | ND | ND |
| Trimethylbenzene, 1,2,4- | ND | ND |
| Xylenes | ND | ND |
| Inhalation Reference Dose (mg/kg-day) | | |
| Benzene | ND | ND |
| Benzo-a-pyrene | ND | ND |
| Cyclohexane | 1.7 | 1.7 |
| Ethyl benzene | 0.29 | 0.29 |
| Heptane, n- | 5.1 | 5.1 |
| Hexane, n- | 0.20 | 0.20 |
| Isobutylene (2-methyl-1-propene) | 1.1 | 1.1 |
| Naphthalene | 8.57E-04 | 8.57E-04 |
| Pentane | 5.71E-03 | 5.71E-03 |

| | | |
|---|---|---|
| Toluene | 7.43E-02 | 7.43E-02 |
| Trimethylbenzene, 1,2,3- | 1.71E-03 | 1.71E-03 |
| Trimethylbenzene, 1,2,4- | 2.00E-03 | 2.00E-03 |
| Xylenes | 2.86E-02 | 2.86E-02 |

SCENARIO:

SUMMARY OF RESULTS 1 2

---

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : Benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-03 | 2.04E-03 |
| LADD (mg/kg-day) | 4.88E-04 | 1.75E-04 |
| Cancer Risk (-) | 1.000E-05 | 3.590E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.00E-08 | 1.44E-07 |
| LADD (mg/kg-day) | 3.43E-08 | 1.23E-08 |
| Cancer Risk (-) | 1.001E-05 | 3.594E-06 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : Cyclohexane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.70E+00 | 3.05E+00 |
| LADD (mg/kg-day) | 7.29E-01 | 2.62E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Ethyl benzene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 5.14E-01 |
| LADD (mg/kg-day) | 1.23E-01 | 4.40E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

Daily Doses and Risk for : Heptane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.14E+00 | 9.23E+00 |
| LADD (mg/kg-day) | 2.20E+00 | 7.91E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

Daily Doses and Risk for : Hexane, n-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-01 | 3.59E-01 |
| LADD (mg/kg-day) | 8.57E-02 | 3.08E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Isobutylene (2-methyl-1-propene)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E+00 | 2.04E+00 |
| LADD (mg/kg-day) | 4.88E-01 | 1.75E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.984E-01 | 1.792E+00 |

Daily Doses and Risk for : Naphthalene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.57E-04 | 1.54E-03 |
| LADD (mg/kg-day) | 3.67E-04 | 1.32E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Pentane

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-03 | 1.03E-02 |
| LADD (mg/kg-day) | 2.45E-03 | 8.79E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |





| | | |
|---|---|---|
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

Daily Doses and Risk for : Toluene

| | | |
|---|---|---|
| CADD (mg/kg-day) | 7.43E-02 | 1.33E-01 |
| LADD (mg/kg-day) | 3.18E-02 | 1.14E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.999E-01 | 1.795E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,3-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.71E-03 | 3.08E-03 |
| LADD (mg/kg-day) | 7.35E-04 | 2.64E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,4-

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.00E-03 | 3.59E-03 |
| LADD (mg/kg-day) | 8.57E-04 | 3.08E-04 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : Xylenes

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-02 | 5.14E-02 |
| LADD (mg/kg-day) | 1.23E-02 | 4.40E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

SUMMARY OF CLEAN-UP LEVELS

---

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 2.4E-02 | 4.0E+05 |
| Benzo-a-pyrene | 1.7E-06 | 7.5E-05 |
| Cyclohexane | 3.6E+01 | 2.8E+05 |
| Ethyl benzene | 6.0E+00 | 5.5E+04 |
| Heptane, n- | 1.1E+02 | 2.2E+05 |
| Hexane, n- | 4.2E+00 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 2.4E+01 | 2.3E+06 |
| Naphthalene | 1.8E-02 | 6.1E+02 |
| Pentane | 1.2E-01 | 1.8E+06 |
| Toluene | 1.6E+00 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 3.6E-02 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 4.2E-02 | 1.0E+04 |
| Xylenes | 6.0E-01 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

---

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 6.7E-02 | 4.0E+05 |
| Benzo-a-pyrene | 4.7E-06 | 7.5E-05 |
| Cyclohexane | 2.0E+01 | 2.8E+05 |
| Ethyl benzene | 3.3E+00 | 5.5E+04 |

| | | |
|---|---|---|
| Heptane, n- | 6.0E+01 | 2.2E+05 |
| Hexane, n- | 2.3E+00 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 1.3E+01 | 2.3E+06 |
| Naphthalene | 1.0E-02 | 6.1E+02 |
| Pentane | 6.7E-02 | 1.8E+06 |
| Toluene | 8.7E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 2.0E-02 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 2.3E-02 | 1.0E+04 |
| Xylenes | 3.3E-01 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_SPORT_SOILGAS_OUTDOOR
08/31/08 19:35

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
TPH Aliphatic 10-16*
TPH Aliphatic 16-22 *
TPH Aliphatic 22-30 *
TPH Aliphatic 30-40 *
TPH Aromatic 10-16 *
TPH Aromatic 16-22 *
TPH Aromatic 22-30*
TPH Aromatic 30-40 *
>5-6 C aliphatics (TPHCWG)
>6-8 C aliphatics (TPHCWG)
>8-10 C aliphatics (TPHCWG)
>5-7 C aromatics (TPHCWG)
>7-8 C aromatics (TPHCWG)
>8-10 C aromatics (TPHCWG)

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| LIFETIME AND BODY WEIGHT | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| INHALATION OF OUTDOOR AIR | | |
| Inhalation rate (m^3/hr) | 3.90 | 2.40 |
| Time outdoors (hours/day) | 1.50 | 1.50 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 208. | 130. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| TPH Aliphatic 10-16* | 1.0 | 1.0 |
| TPH Aliphatic 16-22 * | 1.0 | 1.0 |
| TPH Aliphatic 22-30 * | 1.0 | 1.0 |
| TPH Aliphatic 30-40 * | 1.0 | 1.0 |
| TPH Aromatic 10-16 * | 1.0 | 1.0 |
| TPH Aromatic 16-22 * | 1.0 | 1.0 |
| TPH Aromatic 22-30* | 1.0 | 1.0 |
| TPH Aromatic 30-40 * | 1.0 | 1.0 |
| >5-6 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >6-8 C aliphatics (TPHCWG) | 1.0 | 1.0 |





| | | |
|---|---|---|
| >8-10 C aliphatics (TPHCWG) | 1.0 | 1.0 |
| >5-7 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >7-8 C aromatics (TPHCWG) | 1.0 | 1.0 |
| >8-10 C aromatics (TPHCWG) | 1.0 | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Outdoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | | |
|---|---|---|
| TPH Aliphatic 10-16* | 6.0 | 6.0 |
| TPH Aliphatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 22-30 * | 1.00E+06 | 1.00E+06 |
| TPH Aliphatic 30-40 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 10-16 * | 1.2 | 1.2 |
| TPH Aromatic 16-22 * | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 22-30* | 1.00E+06 | 1.00E+06 |
| TPH Aromatic 30-40 * | 1.00E+06 | 1.00E+06 |
| >5-6 C aliphatics (TPHCWG) | 1.10E+02 | 1.10E+02 |
| >6-8 C aliphatics (TPHCWG) | 1.10E+02 | 1.10E+02 |
| >8-10 C aliphatics (TPHCWG) | 6.0 | 6.0 |
| >5-7 C aromatics (TPHCWG) | 0.18 | 0.18 |
| >7-8 C aromatics (TPHCWG) | 2.4 | 2.4 |
| >8-10 C aromatics (TPHCWG) | 1.2 | 1.2 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| TPH Aliphatic 10-16* | ND | ND |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | ND | ND |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | ND | ND |
| >6-8 C aliphatics (TPHCWG) | ND | ND |
| >8-10 C aliphatics (TPHCWG) | ND | ND |
| >5-7 C aromatics (TPHCWG) | ND | ND |
| >7-8 C aromatics (TPHCWG) | ND | ND |
| >8-10 C aromatics (TPHCWG) | ND | ND |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| TPH Aliphatic 10-16* | 0.29 | 0.29 |
| TPH Aliphatic 16-22 * | ND | ND |
| TPH Aliphatic 22-30 * | ND | ND |
| TPH Aliphatic 30-40 * | ND | ND |
| TPH Aromatic 10-16 * | 5.71E-02 | 5.71E-02 |
| TPH Aromatic 16-22 * | ND | ND |
| TPH Aromatic 22-30* | ND | ND |
| TPH Aromatic 30-40 * | ND | ND |
| >5-6 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >6-8 C aliphatics (TPHCWG) | 5.3 | 5.3 |
| >8-10 C aliphatics (TPHCWG) | 0.29 | 0.29 |
| >5-7 C aromatics (TPHCWG) | 8.57E-03 | 8.57E-03 |
| >7-8 C aromatics (TPHCWG) | 0.11 | 0.11 |
| >8-10 C aromatics (TPHCWG) | 5.71E-02 | 5.71E-02 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

INHALATION OF OUTDOOR AIR

Daily Doses and Risk for : TPH Aliphatic 10-16*

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 5.14E-01 |
| LADD (mg/kg-day) | 1.23E-01 | 4.40E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

Daily Doses and Risk for : TPH Aliphatic 16-22 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 22-30 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 10-16 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 1.03E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 8.79E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

Daily Doses and Risk for : TPH Aromatic 16-22 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 22-30*

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 30-40 *

| | | |
|---|---|---|
| CADD (mg/kg-day) | 4.76E+04 | 8.55E+04 |
| LADD (mg/kg-day) | 2.04E+04 | 7.33E+03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 | 0.000E+00 |

Daily Doses and Risk for : >5-6 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.24E+00 | 9.40E+00 |
| LADD (mg/kg-day) | 2.25E+00 | 8.06E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.959E-01 | 1.788E+00 |

Daily Doses and Risk for : >6-8 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.24E+00 | 9.40E+00 |
| LADD (mg/kg-day) | 2.25E+00 | 8.06E-01 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.959E-01 | 1.788E+00 |

Daily Doses and Risk for : >8-10 C aliphatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 2.86E-01 | 5.14E-01 |
| LADD (mg/kg-day) | 1.23E-01 | 4.40E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |





Daily Doses and Risk for : >5-7 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 8.57E-03 | 1.54E-02 |
| LADD (mg/kg-day) | 3.67E-03 | 1.32E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |

Daily Doses and Risk for : >7-8 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 1.14E-01 | 2.04E-01 |
| LADD (mg/kg-day) | 4.88E-02 | 1.75E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 9.984E-01 | 1.792E+00 |

Daily Doses and Risk for : >8-10 C aromatics (TPHCWG)

| | | |
|---|---|---|
| CADD (mg/kg-day) | 5.71E-02 | 1.03E-01 |
| LADD (mg/kg-day) | 2.45E-02 | 8.79E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] | |
|---|---|---|---|
| TPH Aliphatic 10-16* | 6.0E+00 | 8.4E+02 | |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 | *** |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 | *** |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 | *** |
| TPH Aromatic 10-16 * | 1.2E+00 | 7.6E+02 | |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 | *** |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 | *** |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 | *** |
| >5-6 C aliphatics (TPHCWG) | 1.1E+02 | 1.2E+06 | |
| >6-8 C aliphatics (TPHCWG) | 1.1E+02 | 2.7E+05 | |
| >8-10 C aliphatics (TPHCWG) | 6.0E+00 | 3.4E+04 | |
| >5-7 C aromatics (TPHCWG) | 1.8E-01 | 0.0E+00 | *** |
| >7-8 C aromatics (TPHCWG) | 2.4E+00 | 1.5E+05 | |
| >8-10 C aromatics (TPHCWG) | 1.2E+00 | 3.1E+02 | |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] | |
|---|---|---|---|
| TPH Aliphatic 10-16* | 3.3E+00 | 8.4E+02 | |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 | *** |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 | *** |

| | | | |
|---|---|---|---|
| | TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** | | | |
| | TPH Aromatic 10-16 * | 6.7E-01 | 7.6E+02 |
| | TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | | |
| | TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** | | | |
| | TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** | | | |
| | >5-6 C aliphatics (TPHCWG) | 6.2E+01 | 1.2E+06 |
| | >6-8 C aliphatics (TPHCWG) | 6.2E+01 | 2.7E+05 |
| | >8-10 C aliphatics (TPHCWG) | 3.3E+00 | 3.4E+04 |
| | >5-7 C aromatics (TPHCWG) | 1.0E-01 | 0.0E+00 |
| *** | | | |
| | >7-8 C aromatics (TPHCWG) | 1.3E+00 | 1.5E+05 |
| | >8-10 C aromatics (TPHCWG) | 6.7E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of outdoor air

Title:
13506_SPORT_SOILGAS_OUTDOOR
08/31/08 19:33

Scenarios:
Adult Resident - RME
Child Resident - RME

Routes:
INHALATION OF OUTDOOR AIR

Chemicals:
Carbon tetrachloride (Tetrachlorome
Chloroform (Trichloromethane)
Cyclopentane, methyl-
Dichlorofluoromethane
Methylene chloride (dichloromethane

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 | 2 |
|---|---|---|
| **LIFETIME AND BODY WEIGHT** | | |
| Body Weight (kg) | 70.0 | 15.0 |
| Lifetime (years) | 70.0 | 70.0 |
| **INHALATION OF OUTDOOR AIR** | | |
| Inhalation rate (m^3/hr) | 3.90 | 2.40 |
| Time outdoors (hours/day) | 1.50 | 1.50 |
| Lung Retention Factor (-) | 1.00 | 1.00 |
| Exp. Freq. Outdoor Air (events/yr) | 208. | 130. |
| Exp. Duration Outdoor Air (yr) | 30.0 | 6.00 |
| Absorption Adjustment Factor for Inhalation (-) | | |
| Carbon tetrachloride (Tetrachlorome | 1.0 | 1.0 |
| Chloroform (Trichloromethane) | 1.0 | 1.0 |
| Cyclopentane, methyl- | 1.0 | 1.0 |
| Dichlorofluoromethane | 1.0 | 1.0 |
| Methylene chloride (dichloromethane | 1.0 | 1.0 |

MEDIA CONCENTRATIONS
---
Concentration in Outdoor Air (mg/m^3)
- Used to calculate risk and hazard index.





| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 9.33E-03 | 9.33E-03 |
| Chloroform (Trichloromethane) | 6.05E-03 | 6.05E-03 |
| Cyclopentane, methyl- | 6.0 | 6.0 |
| Dichlorofluoromethane | 0.21 | 0.21 |
| Methylene chloride (dichloromethane | 0.30 | 0.30 |

SLOPE FACTORS AND REFERENCE DOSES
---

Inhalation Slope Factor [1/(mg/kg-day)]

| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 5.25E-02 | 5.25E-02 |
| Chloroform (Trichloromethane) | 8.10E-02 | 8.10E-02 |
| Cyclopentane, methyl- | ND | ND |
| Dichlorofluoromethane | ND | ND |
| Methylene chloride (dichloromethane | 1.65E-03 | 1.65E-03 |

Inhalation Reference Dose (mg/kg-day)

| | | |
|---|---|---|
| Carbon tetrachloride (Tetrachlorome | 0.54 | 0.54 |
| Chloroform (Trichloromethane) | 2.80E-02 | 2.80E-02 |
| Cyclopentane, methyl- | 0.29 | 0.29 |
| Dichlorofluoromethane | 1.00E-02 | 1.00E-02 |
| Methylene chloride (dichloromethane | 0.30 | 0.30 |

| SUMMARY OF RESULTS | SCENARIO: 1 | 2 |
|---|---|---|

INHALATION OF OUTDOOR AIR

| | | |
|---|---|---|
| **Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome** | | |
| CADD (mg/kg-day) | 4.44E-04 | 7.98E-04 |
| LADD (mg/kg-day) | 1.90E-04 | 6.84E-05 |
| Cancer Risk (-) | 9.998E-06 | 3.589E-06 |
| Hazard Index (-) | 8.228E-04 | 1.477E-03 |
| **Daily Doses and Risk for : Chloroform (Trichloromethane)** | | |
| CADD (mg/kg-day) | 2.88E-04 | 5.17E-04 |
| LADD (mg/kg-day) | 1.23E-04 | 4.43E-05 |
| Cancer Risk (-) | 1.000E-05 | 3.591E-06 |
| Hazard Index (-) | 1.029E-02 | 1.847E-02 |
| **Daily Doses and Risk for : Cyclopentane, methyl-** | | |
| CADD (mg/kg-day) | 2.86E-01 | 5.14E-01 |
| LADD (mg/kg-day) | 1.23E-01 | 4.40E-02 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 | 1.796E+00 |
| **Daily Doses and Risk for : Dichlorofluoromethane** | | |
| CADD (mg/kg-day) | 1.00E-02 | 1.80E-02 |
| LADD (mg/kg-day) | 4.29E-03 | 1.54E-03 |
| Cancer Risk (-) | 0.000E+00 | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 | 1.795E+00 |
| **Daily Doses and Risk for : Methylene chloride (dichloromethane** | | |
| CADD (mg/kg-day) | 1.41E-02 | 2.54E-02 |
| LADD (mg/kg-day) | 6.06E-03 | 2.18E-03 |
| Cancer Risk (-) | 1.000E-05 | 3.591E-06 |
| Hazard Index (-) | 4.715E-02 | 8.462E-02 |

SUMMARY OF CLEAN-UP LEVELS
---

| Clean-up Levels in Outdoor Air<br>Receptor: Adult Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 9.3E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 6.0E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 6.0E+00 | 4.9E+05 |
| Dichlorofluoromethane | 2.1E-01 | 3.9E+06 |
| Methylene chloride (dichloromethan | 3.0E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Outdoor Air<br>Receptor: Child Resident - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 2.6E-02 | 9.7E+05 |
| Chloroform (Trichloromethane) | 1.7E-02 | 9.7E+05 |
| Cyclopentane, methyl- | 3.3E+00 | 4.9E+05 |
| Dichlorofluoromethane | 1.2E-01 | 3.9E+06 |
| Methylene chloride (dichloromethan | 8.3E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of outdoor air

COMERCIAL INHALACIÓN SG INTERIOR

Title:
13506_COMERCIAL_SOILGAS_INDOOR
08/31/08 22:08

Scenarios:
Worker - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
- Acetone (2-propanone)
- Butanol, n-
- Ethyl-2-methyl benzene, 1-
- Formaldehyde
- Isopropyl alcohol
- Tert-butyl alcohol (2-methyl-2-prop

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INHALATION OF INDOOR AIR** | |
| Inhalation rate (m^3/hr) | 2.10 |
| Time indoors (hours/day) | 8.00 |
| Lung Retention Factor (-) | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 230. |
| Exp. Duration Indoor Air (yr) | 25.0 |
| Absorption Adjustment Factor for Inhalation (-) | |
| Acetone (2-propanone) | 1.0 |
| Butanol, n- | 1.0 |
| Ethyl-2-methyl benzene, 1- | 1.0 |
| Formaldehyde | 1.0 |
| Isopropyl alcohol | 1.0 |
| Tert-butyl alcohol (2-methyl-2-prop | 1.0 |
| **MEDIA CONCENTRATIONS** | |
| Concentration in Indoor Air (mg/m^3) | |
| - Used to calculate risk and hazard index. | |
| Acetone (2-propanone) | 58. |
| Butanol, n- | 0.14 |
| Ethyl-2-methyl benzene, 1- | 0.75 |
| Formaldehyde | 4.07E-03 |
| Isopropyl alcohol | 1.3 |
| Tert-butyl alcohol (2-methyl-2-prop | 0.57 |
| **SLOPE FACTORS AND REFERENCE DOSES** | |
| Inhalation Slope Factor [1/(mg/kg-day)] | |
| Acetone (2-propanone) | ND |
| Butanol, n- | ND |
| Ethyl-2-methyl benzene, 1- | ND |
| Formaldehyde | 4.55E-02 |
| Isopropyl alcohol | ND |
| Tert-butyl alcohol (2-methyl-2-prop | ND |
| Inhalation Reference Dose (mg/kg-day) | |
| Acetone (2-propanone) | 8.8 |
| Butanol, n- | 2.20E-02 |





| | |
|---|---|
| Ethyl-2-methyl benzene, 1- | 0.11 |
| Formaldehyde | 2.80E-03 |
| Isopropyl alcohol | 0.20 |
| Tert-butyl alcohol (2-methyl-2-prop | 8.60E-02 |

## SUMMARY OF RESULTS

---

### INHALATION OF INDOOR AIR

**Daily Doses and Risk for : Acetone (2-propanone)**

| | |
|---|---|
| CADD (mg/kg-day) | 8.83E+00 |
| LADD (mg/kg-day) | 3.15E+00 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.991E-01 |

**Daily Doses and Risk for : Butanol, n-**

| | |
|---|---|
| CADD (mg/kg-day) | 2.19E-02 |
| LADD (mg/kg-day) | 7.83E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.968E-01 |

**Daily Doses and Risk for : Ethyl-2-methyl benzene, 1-**

| | |
|---|---|
| CADD (mg/kg-day) | 1.14E-01 |
| LADD (mg/kg-day) | 4.07E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 |

**Daily Doses and Risk for : Formaldehyde**

| | |
|---|---|
| CADD (mg/kg-day) | 6.16E-04 |
| LADD (mg/kg-day) | 2.20E-04 |
| Cancer Risk (-) | 1.000E-05 |
| Hazard Index (-) | 2.198E-01 |

**Daily Doses and Risk for : Isopropyl alcohol**

| | |
|---|---|
| CADD (mg/kg-day) | 2.00E-01 |
| LADD (mg/kg-day) | 7.13E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.981E-01 |

**Daily Doses and Risk for : Tert-butyl alcohol (2-methyl-2-prop**

| | |
|---|---|
| CADD (mg/kg-day) | 8.61E-02 |
| LADD (mg/kg-day) | 3.07E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

### SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Worker - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Acetone (2-propanone) | 5.8E+01 | 1.6E+06 |
| Butanol, n- | 1.5E-01 | 2.7E+04 |
| Ethyl-2-methyl benzene, 1- | 7.5E-01 | 1.6E+04 |
| Formaldehyde | 4.1E-03 | 5.6E+03 |
| Isopropyl alcohol | 1.3E+00 | 7.3E+04 |
| Tert-butyl alcohol (2-methyl-2-pro | 5.7E-01 | 1.3E+05 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_COMERCIAL_SOILGAS_INDOOR
08/31/08 22:15

Scenarios:
Worker - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
Chlorobenzene (Monochlorobenzene)
Dichlorodifluoromethane
Dichloroethane, 1,1-
Dichloroethane, 1,2-
Dichloroethylene, 1,1-
Dichloroethylene, cis-1,2-
Dichloroethylene, trans-1,2
Dichloropropane, 1,2-
Styrene
Tetrachloroethane, 1,1,2,2-
Tetrachloroethylene
Trichloroethane, 1,1,1-
Trichloroethane, 1,1,2- (Vinyl tric
Trichloroethylene
Vinyl chloride

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INHALATION OF INDOOR AIR** | |
| Inhalation rate (m^3/hr) | 2.10 |
| Time indoors (hours/day) | 8.00 |
| Lung Retention Factor (-) | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 230. |
| Exp. Duration Indoor Air (yr) | 25.0 |
| Absorption Adjustment Factor for Inhalation (-) | |
| Chlorobenzene (Monochlorobenzene) | 1.0 |
| Dichlorodifluoromethane | 1.0 |
| Dichloroethane, 1,1- | 1.0 |
| Dichloroethane, 1,2- | 1.0 |
| Dichloroethylene, 1,1- | 1.0 |
| Dichloroethylene, cis-1,2- | 1.0 |
| Dichloroethylene, trans-1,2 | 1.0 |
| Dichloropropane, 1,2- | 1.0 |
| Styrene | 1.0 |
| Tetrachloroethane, 1,1,2,2- | 1.0 |
| Tetrachloroethylene | 1.0 |
| Trichloroethane, 1,1,1- | 1.0 |
| Trichloroethane, 1,1,2- (Vinyl tric | 1.0 |
| Trichloroethylene | 1.0 |
| Vinyl chloride | 1.0 |
| **MEDIA CONCENTRATIONS** | |
| Concentration in Indoor Air (mg/m^3) - Used to calculate risk and hazard index. | |
| Chlorobenzene (Monochlorobenzene) | 9.39E-02 |





| | |
|---|---|
| Dichlorodifluoromethane | 0.33 |
| Dichloroethane, 1,1- | 0.66 |
| Dichloroethane, 1,2- | 2.03E-03 |
| Dichloroethylene, 1,1- | 0.38 |
| Dichloroethylene, cis-1,2- | 1.5 |
| Dichloroethylene, trans-1,2 | 0.11 |
| Dichloropropane, 1,2- | 7.54E-03 |
| Styrene | 0.49 |
| Tetrachloroethane, 1,1,2,2- | 9.12E-04 |
| Tetrachloroethylene | 0.47 |
| Trichloroethane, 1,1,1- | 4.2 |
| Trichloroethane, 1,1,2- (Vinyl tric | 3.31E-03 |
| Trichloroethylene | 9.75E-02 |
| Vinyl chloride | 5.29E-02 |

**SLOPE FACTORS AND REFERENCE DOSES**

**Inhalation Slope Factor [1/(mg/kg-day)]**

| | |
|---|---|
| Chlorobenzene (Monochlorobenzene) | ND |
| Dichlorodifluoromethane | ND |
| Dichloroethane, 1,1- | ND |
| Dichloroethane, 1,2- | 9.10E-02 |
| Dichloroethylene, 1,1- | ND |
| Dichloroethylene, cis-1,2- | ND |
| Dichloroethylene, trans-1,2 | ND |
| Dichloropropane, 1,2- | ND |
| Styrene | ND |
| Tetrachloroethane, 1,1,2,2- | 0.20 |
| Tetrachloroethylene | ND |
| Trichloroethane, 1,1,1- | ND |
| Trichloroethane, 1,1,2- (Vinyl tric | 5.60E-02 |
| Trichloroethylene | 1.90E-03 |
| Vinyl chloride | 3.50E-03 |

**Inhalation Reference Dose (mg/kg-day)**

| | |
|---|---|
| Chlorobenzene (Monochlorobenzene) | 1.42E-02 |
| Dichlorodifluoromethane | 5.00E-02 |
| Dichloroethane, 1,1- | 0.10 |
| Dichloroethane, 1,2- | 0.70 |
| Dichloroethylene, 1,1- | 5.70E-02 |
| Dichloroethylene, cis-1,2- | 0.23 |
| Dichloroethylene, trans-1,2 | 1.70E-02 |
| Dichloropropane, 1,2- | 1.14E-03 |
| Styrene | 7.40E-02 |
| Tetrachloroethane, 1,1,2,2- | ND |
| Tetrachloroethylene | 7.10E-02 |
| Trichloroethane, 1,1,1- | 0.63 |
| Trichloroethane, 1,1,2- (Vinyl tric | ND |
| Trichloroethylene | ND |
| Vinyl chloride | ND |

**SUMMARY OF RESULTS**

**INHALATION OF INDOOR AIR**

Daily Doses and Risk for : Chlorobenzene (Monochlorobenzene)

| | |
|---|---|
| CADD (mg/kg-day) | 1.42E-02 |
| LADD (mg/kg-day) | 5.07E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 |

Daily Doses and Risk for : Dichlorodifluoromethane
- CADD (mg/kg-day) 5.01E-02
- LADD (mg/kg-day) 1.79E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 1.001E+00

Daily Doses and Risk for : Dichloroethane, 1,1-
- CADD (mg/kg-day) 1.00E-01
- LADD (mg/kg-day) 3.57E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.996E-01

Daily Doses and Risk for : Dichloroethane, 1,2-
- CADD (mg/kg-day) 3.07E-04
- LADD (mg/kg-day) 1.10E-04
- Cancer Risk (-) 9.978E-06
- Hazard Index (-) 4.386E-04

Daily Doses and Risk for : Dichloroethylene, 1,1-
- CADD (mg/kg-day) 5.70E-02
- LADD (mg/kg-day) 2.04E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 1.000E+00

Daily Doses and Risk for : Dichloroethylene, cis-1,2-
- CADD (mg/kg-day) 2.30E-01
- LADD (mg/kg-day) 8.21E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.995E-01

Daily Doses and Risk for : Dichloroethylene, trans-1,2
- CADD (mg/kg-day) 1.69E-02
- LADD (mg/kg-day) 6.05E-03
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.964E-01

Daily Doses and Risk for : Dichloropropane, 1,2-
- CADD (mg/kg-day) 1.14E-03
- LADD (mg/kg-day) 4.07E-04
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 1.000E+00

Daily Doses and Risk for : Styrene
- CADD (mg/kg-day) 7.40E-02
- LADD (mg/kg-day) 2.64E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.994E-01

Daily Doses and Risk for : Tetrachloroethane, 1,1,2,2-
- CADD (mg/kg-day) 1.38E-04
- LADD (mg/kg-day) 4.93E-05
- Cancer Risk (-) 1.000E-05
- Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Tetrachloroethylene
- CADD (mg/kg-day) 7.09E-02
- LADD (mg/kg-day) 2.53E-02
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.990E-01

Daily Doses and Risk for : Trichloroethane, 1,1,1-
- CADD (mg/kg-day) 6.29E-01
- LADD (mg/kg-day) 2.25E-01
- Cancer Risk (-) 0.000E+00
- Hazard Index (-) 9.986E-01

Daily Doses and Risk for : Trichloroethane, 1,1,2- (Vinyl tric





- CADD (mg/kg-day) 5.01E-04
- LADD (mg/kg-day) 1.79E-04
- Cancer Risk (-) 1.001E-05
- Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Trichloroethylene
- CADD (mg/kg-day) 1.47E-02
- LADD (mg/kg-day) 5.27E-03
- Cancer Risk (-) 1.001E-05
- Hazard Index (-) 0.000E+00

Daily Doses and Risk for : Vinyl chloride
- CADD (mg/kg-day) 8.00E-03
- LADD (mg/kg-day) 2.86E-03
- Cancer Risk (-) 1.000E-05
- Hazard Index (-) 0.000E+00

## SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Worker - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Chlorobenzene (Monochlorobenzene) | 9.4E-02 | 9.1E+04 |
| Dichlorodifluoromethane | 3.3E-01 | 4.7E+06 |
| Dichloroethane, 1,1- | 6.6E-01 | 1.0E+06 |
| Dichloroethane, 1,2- | 2.0E-03 | 2.8E+05 |
| Dichloroethylene, 1,1- | 3.8E-01 | 2.5E+06 |
| Dichloroethylene, cis-1,2- | 1.5E+00 | 6.7E+05 |
| Dichloroethylene, trans-1,2 | 1.1E-01 | 2.0E+06 |
| Dichloropropane, 1,2- | 7.5E-03 | 3.3E+05 |
| Styrene | 4.9E-01 | 3.5E+04 |
| Tetrachloroethane, 1,1,2,2- | 9.1E-04 | 4.6E+04 |
| Tetrachloroethylene | 4.7E-01 | 1.2E+05 |
| Trichloroethane, 1,1,1- | 4.2E+00 | 9.5E+05 |
| Trichloroethane, 1,1,2- (Vinyl tri | 3.3E-03 | 1.7E+05 |
| Trichloroethylene | 9.7E-02 | 3.7E+05 |
| Vinyl chloride | 5.3E-02 | 3.1E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_COMERCIAL_SOILGAS_INDOOR
08/31/08 22:17

Scenarios:
Worker - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
- Benzene
- Benzo-a-pyrene
- Cyclohexane
- Ethyl benzene
- Heptane, n-
- Hexane, n-
- Isobutylene (2-methyl-1-propene)
- Naphthalene
- Pentane
- Toluene
- Trimethylbenzene, 1,2,3-
- Trimethylbenzene, 1,2,4-

Xylenes

SUMMARY OF INPUT PARAMETERS — SCENARIO: 1

---

LIFETIME AND BODY WEIGHT

| | |
|---|---|
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |

INHALATION OF INDOOR AIR

| | |
|---|---|
| Inhalation rate (m^3/hr) | 2.10 |
| Time indoors (hours/day) | 8.00 |
| Lung Retention Factor (-) | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 230. |
| Exp. Duration Indoor Air (yr) | 25.0 |

Absorption Adjustment Factor for Inhalation (-)

| | |
|---|---|
| Benzene | 1.0 |
| Benzo-a-pyrene | 1.0 |
| Cyclohexane | 1.0 |
| Ethyl benzene | 1.0 |
| Heptane, n- | 1.0 |
| Hexane, n- | 1.0 |
| Isobutylene (2-methyl-1-propene) | 1.0 |
| Naphthalene | 1.0 |
| Pentane | 1.0 |
| Toluene | 1.0 |
| Trimethylbenzene, 1,2,3- | 1.0 |
| Trimethylbenzene, 1,2,4- | 1.0 |
| Xylenes | 1.0 |

MEDIA CONCENTRATIONS

---

Concentration in Indoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Benzene | 9.03E-03 |
| Benzo-a-pyrene | 6.34E-07 |
| Cyclohexane | 11. |
| Ethyl benzene | 1.9 |
| Heptane, n- | 34. |
| Hexane, n- | 1.3 |
| Isobutylene (2-methyl-1-propene) | 7.5 |
| Naphthalene | 5.67E-03 |
| Pentane | 3.78E-02 |
| Toluene | 0.49 |
| Trimethylbenzene, 1,2,3- | 1.12E-02 |
| Trimethylbenzene, 1,2,4- | 1.32E-02 |
| Xylenes | 0.19 |

SLOPE FACTORS AND REFERENCE DOSES

---

Inhalation Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Benzene | 2.05E-02 |
| Benzo-a-pyrene | 2.92E+02 |
| Cyclohexane | ND |
| Ethyl benzene | ND |
| Heptane, n- | ND |
| Hexane, n- | ND |
| Isobutylene (2-methyl-1-propene) | ND |
| Naphthalene | ND |
| Pentane | ND |
| Toluene | ND |
| Trimethylbenzene, 1,2,3- | ND |
| Trimethylbenzene, 1,2,4- | ND |
| Xylenes | ND |





Inhalation Reference Dose (mg/kg-day)

| | |
|---|---|
| Benzene | ND |
| Benzo-a-pyrene | ND |
| Cyclohexane | 1.7 |
| Ethyl benzene | 0.29 |
| Heptane, n- | 5.1 |
| Hexane, n- | 0.20 |
| Isobutylene (2-methyl-1-propene) | 1.1 |
| Naphthalene | 8.57E-04 |
| Pentane | 5.71E-03 |
| Toluene | 7.43E-02 |
| Trimethylbenzene, 1,2,3- | 1.70E-03 |
| Trimethylbenzene, 1,2,4- | 2.00E-03 |
| Xylenes | 2.86E-02 |

SUMMARY OF RESULTS

---

INHALATION OF INDOOR AIR

Daily Doses and Risk for : Benzene

| | |
|---|---|
| CADD (mg/kg-day) | 1.37E-03 |
| LADD (mg/kg-day) | 4.88E-04 |
| Cancer Risk (-) | 9.998E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Benzo-a-pyrene

| | |
|---|---|
| CADD (mg/kg-day) | 9.59E-08 |
| LADD (mg/kg-day) | 3.42E-08 |
| Cancer Risk (-) | 9.999E-06 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : Cyclohexane

| | |
|---|---|
| CADD (mg/kg-day) | 1.69E+00 |
| LADD (mg/kg-day) | 6.05E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.964E-01 |

Daily Doses and Risk for : Ethyl benzene

| | |
|---|---|
| CADD (mg/kg-day) | 2.86E-01 |
| LADD (mg/kg-day) | 1.02E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

Daily Doses and Risk for : Heptane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 5.14E+00 |
| LADD (mg/kg-day) | 1.84E+00 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 |

Daily Doses and Risk for : Hexane, n-

| | |
|---|---|
| CADD (mg/kg-day) | 2.00E-01 |
| LADD (mg/kg-day) | 7.13E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.981E-01 |

Daily Doses and Risk for : Isobutylene (2-methyl-1-propene)

| | |
|---|---|
| CADD (mg/kg-day) | 1.14E+00 |
| LADD (mg/kg-day) | 4.07E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 |

Daily Doses and Risk for : Naphthalene

| | |
|---|---|
| CADD (mg/kg-day) | 8.57E-04 |
| LADD (mg/kg-day) | 3.06E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : Pentane

| | |
|---|---|
| CADD (mg/kg-day) | 5.72E-03 |
| LADD (mg/kg-day) | 2.04E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : Toluene

| | |
|---|---|
| CADD (mg/kg-day) | 7.43E-02 |
| LADD (mg/kg-day) | 2.65E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,3-

| | |
|---|---|
| CADD (mg/kg-day) | 1.69E-03 |
| LADD (mg/kg-day) | 6.05E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.964E-01 |

Daily Doses and Risk for : Trimethylbenzene, 1,2,4-

| | |
|---|---|
| CADD (mg/kg-day) | 2.00E-03 |
| LADD (mg/kg-day) | 7.13E-04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.981E-01 |

Daily Doses and Risk for : Xylenes

| | |
|---|---|
| CADD (mg/kg-day) | 2.86E-02 |
| LADD (mg/kg-day) | 1.02E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Worker - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Benzene | 9.0E-03 | 4.0E+05 |
| Benzo-a-pyrene | 6.3E-07 | 7.5E-05 |
| Cyclohexane | 1.1E+01 | 2.8E+05 |
| Ethyl benzene | 1.9E+00 | 5.5E+04 |
| Heptane, n- | 3.4E+01 | 2.2E+05 |
| Hexane, n- | 1.3E+00 | 6.1E+05 |
| Isobutylene (2-methyl-1-propene) | 7.5E+00 | 2.3E+06 |
| Naphthalene | 5.7E-03 | 6.1E+02 |
| Pentane | 3.8E-02 | 1.8E+06 |
| Toluene | 4.9E-01 | 1.4E+05 |
| Trimethylbenzene, 1,2,3- | 1.1E-02 | 1.0E+04 |
| Trimethylbenzene, 1,2,4- | 1.3E-02 | 1.0E+04 |
| Xylenes | 1.9E-01 | 5.7E+04 |

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_COMERCIAL_SOILGAS_INDOOR
08/31/08 22:19

Scenarios:
Worker - RME





Routes:
INHALATION OF INDOOR AIR

Chemicals:
TPH Aliphatic 10-16*
TPH Aliphatic 16-22 *
TPH Aliphatic 22-30 *
TPH Aliphatic 30-40 *
TPH Aromatic 10-16 *
TPH Aromatic 16-22 *
TPH Aromatic 22-30*
TPH Aromatic 30-40 *
>5-6 C aliphatics (TPHCWG)
>6-8 C aliphatics (TPHCWG)
>8-10 C aliphatics (TPHCWG)
>5-7 C aromatics (TPHCWG)
>7-8 C aromatics (TPHCWG)
>8-10 C aromatics (TPHCWG)

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| **LIFETIME AND BODY WEIGHT** | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| **INHALATION OF INDOOR AIR** | |
| Inhalation rate (m^3/hr) | 2.10 |
| Time indoors (hours/day) | 8.00 |
| Lung Retention Factor (-) | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 230. |
| Exp. Duration Indoor Air (yr) | 25.0 |
| Absorption Adjustment Factor for Inhalation (-) | |
| TPH Aliphatic 10-16* | 1.0 |
| TPH Aliphatic 16-22 * | 1.0 |
| TPH Aliphatic 22-30 * | 1.0 |
| TPH Aliphatic 30-40 * | 1.0 |
| TPH Aromatic 10-16 * | 1.0 |
| TPH Aromatic 16-22 * | 1.0 |
| TPH Aromatic 22-30* | 1.0 |
| TPH Aromatic 30-40 * | 1.0 |
| >5-6 C aliphatics (TPHCWG) | 1.0 |
| >6-8 C aliphatics (TPHCWG) | 1.0 |
| >8-10 C aliphatics (TPHCWG) | 1.0 |
| >5-7 C aromatics (TPHCWG) | 1.0 |
| >7-8 C aromatics (TPHCWG) | 1.0 |
| >8-10 C aromatics (TPHCWG) | 1.0 |

MEDIA CONCENTRATIONS

| Concentration in Indoor Air (mg/m^3)<br>- Used to calculate risk and hazard index. | |
|---|---|
| TPH Aliphatic 10-16* | 1.9 |
| TPH Aliphatic 16-22 * | 1.00E+06 |
| TPH Aliphatic 22-30 * | 1.00E+06 |
| TPH Aliphatic 30-40 * | 1.00E+06 |
| TPH Aromatic 10-16 * | 0.38 |
| TPH Aromatic 16-22 * | 1.00E+06 |
| TPH Aromatic 22-30* | 1.00E+06 |
| TPH Aromatic 30-40 * | 1.00E+06 |
| >5-6 C aliphatics (TPHCWG) | 35. |
| >6-8 C aliphatics (TPHCWG) | 35. |
| >8-10 C aliphatics (TPHCWG) | 1.9 |
| >5-7 C aromatics (TPHCWG) | 5.67E-02 |
| >7-8 C aromatics (TPHCWG) | 0.75 |

| | |
|---|---|
| >8-10 C aromatics (TPHCWG) | 0.38 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| TPH Aliphatic 10-16* | ND |
| TPH Aliphatic 16-22 * | ND |
| TPH Aliphatic 22-30 * | ND |
| TPH Aliphatic 30-40 * | ND |
| TPH Aromatic 10-16 * | ND |
| TPH Aromatic 16-22 * | ND |
| TPH Aromatic 22-30* | ND |
| TPH Aromatic 30-40 * | ND |
| >5-6 C aliphatics (TPHCWG) | ND |
| >6-8 C aliphatics (TPHCWG) | ND |
| >8-10 C aliphatics (TPHCWG) | ND |
| >5-7 C aromatics (TPHCWG) | ND |
| >7-8 C aromatics (TPHCWG) | ND |
| >8-10 C aromatics (TPHCWG) | ND |

Inhalation Reference Dose (mg/kg-day)

| | |
|---|---|
| TPH Aliphatic 10-16* | 0.29 |
| TPH Aliphatic 16-22 * | ND |
| TPH Aliphatic 22-30 * | ND |
| TPH Aliphatic 30-40 * | ND |
| TPH Aromatic 10-16 * | 5.71E-02 |
| TPH Aromatic 16-22 * | ND |
| TPH Aromatic 22-30* | ND |
| TPH Aromatic 30-40 * | ND |
| >5-6 C aliphatics (TPHCWG) | 5.3 |
| >6-8 C aliphatics (TPHCWG) | 5.3 |
| >8-10 C aliphatics (TPHCWG) | 0.29 |
| >5-7 C aromatics (TPHCWG) | 8.57E-03 |
| >7-8 C aromatics (TPHCWG) | 0.11 |
| >8-10 C aromatics (TPHCWG) | 5.71E-02 |

SUMMARY OF RESULTS

---

INHALATION OF INDOOR AIR

Daily Doses and Risk for : TPH Aliphatic 10-16*

| | |
|---|---|
| CADD (mg/kg-day) | 2.86E-01 |
| LADD (mg/kg-day) | 1.02E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

Daily Doses and Risk for : TPH Aliphatic 16-22 *

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 22-30 *

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : TPH Aliphatic 30-40 *

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |





| | |
|---|---|
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 10-16 *

| | |
|---|---|
| CADD (mg/kg-day) | 5.72E-02 |
| LADD (mg/kg-day) | 2.04E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : TPH Aromatic 16-22 *

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 22-30*

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : TPH Aromatic 30-40 *

| | |
|---|---|
| CADD (mg/kg-day) | 1.51E+05 |
| LADD (mg/kg-day) | 5.40E+04 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 0.000E+00 |

Daily Doses and Risk for : >5-6 C aliphatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 5.26E+00 |
| LADD (mg/kg-day) | 1.88E+00 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : >6-8 C aliphatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 5.26E+00 |
| LADD (mg/kg-day) | 1.88E+00 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : >8-10 C aliphatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 2.86E-01 |
| LADD (mg/kg-day) | 1.02E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

Daily Doses and Risk for : >5-7 C aromatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 8.57E-03 |
| LADD (mg/kg-day) | 3.06E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

Daily Doses and Risk for : >7-8 C aromatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 1.14E-01 |
| LADD (mg/kg-day) | 4.07E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.000E+00 |

Daily Doses and Risk for : >8-10 C aromatics (TPHCWG)

| | |
|---|---|
| CADD (mg/kg-day) | 5.72E-02 |
| LADD (mg/kg-day) | 2.04E-02 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 1.001E+00 |

SUMMARY OF CLEAN-UP LEVELS

---

| Clean-up Levels in Indoor Air<br>Receptor: Worker - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| TPH Aliphatic 10-16* | 1.9E+00 | 8.4E+02 |
| TPH Aliphatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aliphatic 22-30 * | 1.0E+06 | 3.4E-02 |
| *** | | |
| TPH Aliphatic 30-40 * | 1.0E+06 | 2.7E-05 |
| *** | | |
| TPH Aromatic 10-16 * | 3.8E-01 | 7.6E+02 |
| TPH Aromatic 16-22 * | 1.0E+06 | 8.2E+00 |
| *** | | |
| TPH Aromatic 22-30* | 1.0E+06 | 3.1E-02 |
| *** | | |
| TPH Aromatic 30-40 * | 1.0E+06 | 4.0E-04 |
| *** | | |
| >5-6 C aliphatics (TPHCWG) | 3.5E+01 | 1.2E+06 |
| >6-8 C aliphatics (TPHCWG) | 3.5E+01 | 2.7E+05 |
| >8-10 C aliphatics (TPHCWG) | 1.9E+00 | 3.4E+04 |
| >5-7 C aromatics (TPHCWG) | 5.7E-02 | 0.0E+00 |
| *** | | |
| >7-8 C aromatics (TPHCWG) | 7.5E-01 | 1.5E+05 |
| >8-10 C aromatics (TPHCWG) | 3.8E-01 | 3.1E+02 |

*** SSTL exceeds maximum vapor concentration.

The exposure routes that depend on this source are:
Inhalation of indoor air

Title:
13506_COMERCIAL_SOILGAS_INDOOR
08/31/08 22:20

Scenarios:
Worker - RME

Routes:
INHALATION OF INDOOR AIR

Chemicals:
Carbon tetrachloride (Tetrachlorome
Chloroform (Trichloromethane)
Cyclopentane, methyl-
Dichlorofluoromethane
Methylene chloride (dichloromethane

| SUMMARY OF INPUT PARAMETERS | SCENARIO: 1 |
|---|---|
| LIFETIME AND BODY WEIGHT | |
| Body Weight (kg) | 70.0 |
| Lifetime (years) | 70.0 |
| INHALATION OF INDOOR AIR | |
| Inhalation rate (m^3/hr) | 2.10 |
| Time indoors (hours/day) | 8.00 |
| Lung Retention Factor (-) | 1.00 |
| Exp. Freq. Indoor Air (events/yr) | 230. |
| Exp. Duration Indoor Air (yr) | 25.0 |
| Absorption Adjustment Factor for Inhalation (-) | |
| Carbon tetrachloride (Tetrachlorome | 1.0 |
| Chloroform (Trichloromethane) | 1.0 |
| Cyclopentane, methyl- | 1.0 |





| | |
|---|---|
| Dichlorofluoromethane | 1.0 |
| Methylene chloride (dichloromethane | 1.0 |

MEDIA CONCENTRATIONS

Concentration in Indoor Air (mg/m^3)
- Used to calculate risk and hazard index.

| | |
|---|---|
| Carbon tetrachloride (Tetrachlorome | 3.53E-03 |
| Chloroform (Trichloromethane) | 2.29E-03 |
| Cyclopentane, methyl- | 1.9 |
| Dichlorofluoromethane | 6.61E-02 |
| Methylene chloride (dichloromethane | 0.11 |

SLOPE FACTORS AND REFERENCE DOSES

Inhalation Slope Factor [1/(mg/kg-day)]

| | |
|---|---|
| Carbon tetrachloride (Tetrachlorome | 5.25E-02 |
| Chloroform (Trichloromethane) | 8.10E-02 |
| Cyclopentane, methyl- | ND |
| Dichlorofluoromethane | ND |
| Methylene chloride (dichloromethane | 1.65E-03 |

Inhalation Reference Dose (mg/kg-day)

| | |
|---|---|
| Carbon tetrachloride (Tetrachlorome | 0.54 |
| Chloroform (Trichloromethane) | 2.80E-02 |
| Cyclopentane, methyl- | 0.29 |
| Dichlorofluoromethane | 1.00E-02 |
| Methylene chloride (dichloromethane | 0.30 |

SUMMARY OF RESULTS

INHALATION OF INDOOR AIR

Daily Doses and Risk for : Carbon tetrachloride (Tetrachlorome

| | |
|---|---|
| CADD (mg/kg-day) | 5.34E-04 |
| LADD (mg/kg-day) | 1.91E-04 |
| Cancer Risk (-) | 1.001E-05 |
| Hazard Index (-) | 9.886E-04 |

Daily Doses and Risk for : Chloroform (Trichloromethane)

| | |
|---|---|
| CADD (mg/kg-day) | 3.46E-04 |
| LADD (mg/kg-day) | 1.24E-04 |
| Cancer Risk (-) | 1.002E-05 |
| Hazard Index (-) | 1.237E-02 |

Daily Doses and Risk for : Cyclopentane, methyl-

| | |
|---|---|
| CADD (mg/kg-day) | 2.86E-01 |
| LADD (mg/kg-day) | 1.02E-01 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.994E-01 |

Daily Doses and Risk for : Dichlorofluoromethane

| | |
|---|---|
| CADD (mg/kg-day) | 1.00E-02 |
| LADD (mg/kg-day) | 3.57E-03 |
| Cancer Risk (-) | 0.000E+00 |
| Hazard Index (-) | 9.996E-01 |

Daily Doses and Risk for : Methylene chloride (dichloromethane

| | |
|---|---|
| CADD (mg/kg-day) | 1.69E-02 |
| LADD (mg/kg-day) | 6.05E-03 |

| | W-INH-SG-OUT |
|---|---|
| Cancer Risk (-) | 9.981E-06 |
| Hazard Index (-) | 5.646E-02 |

SUMMARY OF CLEAN-UP LEVELS

| Clean-up Levels in Indoor Air<br>Receptor: Worker - RME | SSTLs [mg/m3] | Max. Vapor Conc. [mg/m3] |
|---|---|---|
| Carbon tetrachloride (Tetrachlorom | 3.5E-03 | 9.7E+05 |
| Chloroform (Trichloromethane) | 2.3E-03 | 9.7E+05 |
| Cyclopentane, methyl- | 1.9E+00 | 4.9E+05 |
| Dichlorofluoromethane | 6.6E-02 | 3.9E+06 |
| Methylene chloride (dichloromethan | 1.1E-01 | 1.4E+06 |

The exposure routes that depend on this source are:
Inhalation of indoor air

# Annex 4

# Valoració de riscos

**Propuesta medidas correctoras. ZONA A-SECTOR 1**

| PDM asociado al sector | Tipología de relleno |
|---|---|
| S-2 | Relleno tierras |
| SG-1 | Residuo inrete y no inerte |
| SP-1 | Terreno natural |

**SUELO INHALACIÓN**

No se superan las concentraciones admisibles para los siguientes escenarios:

RESIDENCIAL/COMERCIAL INDOOR
RESIDENCIAL/COMERCIAL OUTDOOR

**AGUA SUBTERRÁNEA INHALACIÓN**

No se superan las concentraciones admisibles para los siguientes escenarios:

RESIDENCIAL/COMERCIAL INDOOR
RESIDENCIAL/COMERCIAL OUTDOOR

**GASES (soil gas) INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. Detectada (PDM) (mg/m3) | | |
|---|---|---|---|---|
| **RESIDENCIAL (Planta Baja)** | | **SG1-8-II** | **SG1-8-III** | **SG1-3,5-I** |
| Benceno | 0,89 | - | 1,83 | 5,33 |
| TPH arom. C7-C8 | 24 | - | 0,70 | 26,70 |
| Naftaleno | 0,2 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,3 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,3 | <0,83 | <0,83 | <0,83 |
| CV | 5,2 | - | 28,3 | 21,6 |
| **COMERCIAL (Planta Baja edificio residencial)** | | | | |
| Benceno | 0,9 | - | 1,83 | 5,33 |
| Naftaleno | 0,6 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,2 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,8 | <0,83 | <0,83 | <0,83 |
| CV | 5,3 | | 28,30 | 21,60 |

No se superan las concentraciones admisibles para los siguientes escenarios:

RESIDENCIAL/COMERCIAL OUTDOOR

**SUELO UPERFICIAL CONTACTO DIRECTO**

| ESCENARIO | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **RESIDENCIAL exteriores** | | **S-2** |
| As | 4,8 | 18 |
| Ba | 4,8 | 180 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*
*XX, cocnentración obtenida mediante técnica screening*

**Propuesta medidas correctoras. ZONA A-SECTOR 2**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| S-1 | Residuo inerte |
| S-3 | Residuo inrete y no inerte |
| SG-1 | Residuo inrete y no inerte |
| SP-1 | Terreno natural |

**SUELO INHALACIÓN INDOOR**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **COMERCIAL (Servicios técnicos)** | | **S-3** |
| Hg | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C10-C16 | 190 | 1900 |
| TPH arom. C16-C22 | >130 | 2500 |

**SUELO INHALACIÓN OUTDOOR**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **COMERCIAL (Servicios técnicos)** | | **S-3** |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C10-C16 | 67 | 1900 |
| TPH arom. C16-C22 | >130 | 2500 |

**AGUA SUBTERRÁNEA INHALACIÓN**

No se superan las concentraciones admisibles

RESIDENCIAL/COMERCIAL INDOOR
RESIDENCIAL/COMERCIAL OUTDOOR

**GASES (soil gas) INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. Detectada (PDM) (mg/m3) | | |
|---|---|---|---|---|
| **RESIDENCIAL (Planta Baja)** | | **SG1-8-II** | **SG1-8-III** | **SG1-3,5-I** |
| Benceno | 0,89 | - | 1,83 | 5,33 |
| TPH arom. C7-C8 | 24 | - | 0,70 | 26,70 |
| Naftaleno | 0,2 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,3 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,3 | <0,83 | <0,83 | <0,83 |
| CV | 5,2 | - | 28,3 | 21,6 |
| **COMERCIAL (Planta Baja edificio residencial)** | | | | |
| Benceno | 0,9 | - | 1,83 | 5,33 |
| Naftaleno | 0,6 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,2 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,8 | <0,83 | <0,83 | <0,83 |
| CV | 5,3 | | 28,30 | 21,60 |

No se superan las concentraciones admisibles

RESIDENCIAL/COMERCIAL OUTDOOR

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*
*XX, cocnentración obtenida mediante técnica screening*

**Propuesta medidas correctoras. ZONA A-SECTOR 4**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| S-3 | Residuo inerte (extrapolado) |
| S-3 | Residuo inrete y no inerte |

**SUELO INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **RESIDENCIAL (Planta Baja) Tipología suelo SM** | | **S-3** |
| TPH arom. C10-C16 | 140 | 1900 |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **RESIDENCIAL (Planta Baja) Tipología suelo GM** | | |
| Benceno | 0,073 | 0,12 |
| Trimetilbenceno 1,2,4 | 1,5 | 6,1 |
| Trimetilbenceno 1,3,5 | 0,94 | 1,5 |
| TPH alif. C8-C10 | 18 | 25 |
| TPH arom. C10-C16 | 31 | 120 |
| Mercurio | >6,6E-3 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **RESIDENCIAL (Planta 1) Tipología suelo SM** | | |
| TPH arom. C10-C16 | 240 | 1900 |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **RESIDENCIAL (Planta 1) Tipología suelo GM** | | |
| Trimetilbenceno 1,2,4 | 2,6 | 6,1 |
| TPH arom. C10-C16 | 54 | 120 |
| Mercurio | >6,6E-3 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **COMERCIAL (Planta Baja) Tipología suelo SM** | | |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **COMERCIAL (Planta Baja) Tipología suelo GM** | | |
| Trimetilbenceno 1,2,4 | 4,5 | 6,1 |
| Mercurio | >6,6E-3 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **RESIDENCIAL (Exteriores) Tipología suelo SM** | | **S-3** |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| | | |
| **RESIDENCIAL (Exteriores) Tipología suelo GM** | | |
| Mercurio | >6,6E-3 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |

| | | |
|---|---|---|
| **COMERCIAL (Exteriores) Tipología suelo SM** | | |
| Mercurio | >0,011 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |
| **COMERCIAL (Exteriores) Tipología suelo GM** | | |
| Mercurio | >6,6E-3 | 0,13 |
| TPH alif. C10-C-16 | >38 | 1900 |
| TPH alif. C16-C22 | >20 | 2500 |
| TPH arom. C16-C22 | >130 | 1900 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*
*XX, cocnentración obtenida mediante técnica screening*

**Propuesta medidas correctoras. ZONA A-SECTOR 4**

**AGUA SUBTERRÁNEA INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/l) | Conc. detectada (PDM) (mg/l) |
|---|---|---|
| **RESIDENCIAL (Planta Baja) Tipología suelo SM** | | **SP-9** |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **RESIDENCIAL (Planta Baja) Tipología suelo GM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **RESIDENCIAL (Planta 1) Tipología suelo SM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **RESIDENCIAL (Planta 1) Tipología suelo GM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **COMERCIAL (Planta Baja) Tipología suelo SM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **COMERCIAL (Planta Baja) Tipología suelo GM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |

| ESCENARIOS | Conc. admisible (mg/l) | Conc. detectada (PDM) (mg/l) |
|---|---|---|
| **RESIDENCIAL (Exteriores) Tipología suelo SM** | | **SP-9** |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **RESIDENCIAL (Exteriores) Tipología suelo GM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **COMERCIAL (Exteriores) Tipología suelo SM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |
| **COMERCIAL (Exteriores) Tipología suelo GM** | | |
| TPH alif. C10-C16 | >7,6E-4 | 1,60 |
| TPH alif. C16-C22 | >1,7E-5 | 1,40 |
| TPH arom. C16-C22 | >1,3 | 1,60 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*
*XX, cocnentración obtenida mediante técnica screening*

**Propuesta medidas correctoras. ZONA A-SECTOR 4**

**GASES (soil gas) INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. Detectada (PDM) (mg/m3) | | |
|---|---|---|---|---|
| **RESIDENCIAL (Interior*)** | | **SG1-8-II** | **SG1-8-III** | **SG1-3,5-I** |
| Benceno | 0,9 | - | 1,83 | 5,33 |
| TPH arom. C7-C8 | 24,0 | - | 0,70 | 26,70 |
| Naftaleno | 0,2 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,3 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,3 | <0,83 | <0,83 | <0,83 |
| CV | 5,2 | - | 28,30 | 21,60 |
| **COMERCIAL (Interior*)** | | | | |
| Benceno | 0,9 | - | 1,83 | 5,33 |
| Naftaleno | 0,6 | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,2 | <0,83 | <0,83 | <0,83 |
| Tretraclorometano | 0,4 | <0,83 | <0,83 | <0,83 |
| Dicloroetano 1,2 | 0,2 | <0,83 | <0,83 | <0,83 |
| 1,1,2 Tricloroetano | 0,3 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,1 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,8 | <0,83 | <0,83 | <0,83 |
| CV | 5,3 | - | 28,30 | 21,60 |

No se superan las concentraciones admisibles para los siguientes escenarios:

RESIDENCIAL/COMERCIAL OUTDOOR

*, valores extrapolados, se asume a lo largo del edificio (todas las tipologías)

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*
*XX, cocnentración obtenida mediante técnica screening*

## Propuesta medidas correctoras. ZONA A-SECTOR 6

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| S-8 | Relleno tierras |
| S-12 | Residuo inerte |
| SG-11 | Residuo inrete y no inerte (en el límite del sector) |

## SUELO INHALACIÓN

No se superan las concentraciones admisibles

RESIDENCIAL/COMERCIAL INDOOR
RESIDENCIAL/COMERCIAL OUTDOOR

## AGUA SUBTERRÁNEA INHALACIÓN

No se superan las concentraciones admisibles

RESIDENCIAL/COMERCIAL INDOOR
RESIDENCIAL/COMERCIAL OUTDOOR

## GASES (soil gas) INHALACIÓN

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. detectada (PDM) |
|---|---|---|

**Propuesta medidas correctoras. ZONA B-SECTOR 5**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| SP-12 | Relleno tierras (extrapolado) |
| SP-12 | Residuo inerte (extrapolado) |
| SP-12/SG-2/SG-37SG-4 | Residuo inrete y no inerte |

**SUELO INHALACIÓN INDOOR**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **COMERCIAL (Planta Baja) Tipología suelo limos** | | **SP-12** |
| Trimetilbenceno 1,3,5 | 53 | 62 |
| TPH alif. C10-C16 | >38 | 130 |
| TPH alif. C16-C22 | >20 | 50 |
| **COMERCIAL (Planta Baja) Tipología suelo gravas y limos** | | |
| Xilenos | 17 | 38 |
| Trimetilbenceno 1,2,4 | 7,6 | 23 |
| TPH alif. C10-C16 | >38 | 130 |
| TPH alif. C16-C22 | >20 | 50 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **COMERCIAL (Exterior) Tipología suelo limos** | | **SP-12** |
| TPH alif. C10-C16 | >38 | 130 |
| TPH alif. C16-C22 | >20 | 50 |
| | | |
| **COMERCIAL (Exterior) Tipología suelo gravas y limos** | | |
| Trimetilbenceno 1,2,4 | 9,1 | 23 |
| TPH alif. C10-C16 | >38 | 130 |
| TPH alif. C16-C22 | >20 | 50 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

**Propuesta medidas correctoras. ZONA B-SECTOR 5**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| SP-12 | Relleno tierras (extrapolado) |
| SP-12 | Residuo inerte (extrapolado) |
| SP-12/SG-2/SG-37SG-4 | Residuo inrete y no inerte |

**AGUA SUBTERRÁNEA INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) | | |
|---|---|---|---|---|
| **COMERCIAL (Planta Baja) Tipología suelo limos** | | SP-10 | SP-12 | SP-21 |
| TPH alif. C10-C16 | >7,6E-4 | 1 | 12 | 0,3 |
| TPH alif. C16-C22 | >1,7E-5 | 0,55 | 3 | 0,12 |
| TPH arom. C10-C16 | >9,3 | - | 12 | - |
| **COMERCIAL (Planta Baja) Tipología suelo grtavas y limos** | | | | |
| TPH alif. C10-C16 | >7,6E-4 | 1 | 12 | 0,3 |
| TPH alif. C16-C22 | >1,7E-5 | 0,55 | 3 | 0,12 |
| TPH arom. C10-C16 | >9,3 | - | 12 | - |

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) | | |
|---|---|---|---|---|
| **COMERCIAL (Exterior) Tipología suelo limos** | | SP-10 | SP-12 | SP-21 |
| TPH alif. C10-C16 | >7,6E-4 | 1 | 12 | 0,3 |
| TPH alif. C16-C22 | >1,7E-5 | 0,55 | 3 | 0,12 |
| TPH arom. C10-C16 | >9,3 | - | 12 | - |
| **COMERCIAL (Exteriores) Tipología suelo gravas y limos** | | | | |
| TPH alif. C10-C16 | >7,6E-4 | 1 | 12 | 0,3 |
| TPH alif. C16-C22 | >1,7E-5 | 0,55 | 3 | 0,12 |
| TPH arom. C10-C16 | >9,3 | - | 12 | - |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

**Propuesta medidas correctoras. ZONA B-SECTOR 5**

**GASES (soil gas) INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. Detectada (PDM) (mg/m3) | | | | |
|---|---|---|---|---|---|---|
| **COMERCIAL (Interior)** | | **SG2-10-II** | **SG2-10-III** | **SG2-4-I** | **SG3** | **SG4** |
| Benceno | 0,9 | | 8,00 | | 0,32 | 0,25 |
| Naftaleno | 0,570 | <0,83 | <0,83 | <0,83 | - | <0,83 |
| Triclorometano | 0,230 | <0,83 | <0,83 | <0,83 | <0,56 | <0,83 |
| Tetraclorometano | 0,350 | <0,83 | <0,83 | <0,83 | <0,56 | <0,83 |
| 1,2-DCA | 0,200 | <0,83 | <0,83 | <0,83 | <0,56 | <0,83 |
| 1,1,2-TCA | 0,330 | <0,83 | <0,83 | <0,83 | <0,56 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,090 | <0,83 | <0,83 | <0,83 | <0,56 | <0,83 |
| 1,2-Dicloropropano | 0,750 | <0,83 | <0,83 | <0,83 | - | <0,83 |

No se superan las concentraciones admisibles
para los siguientes escenarios:

COMERCIAL EXTERIOR

*-, no detectado*

**Propuesta medidas correctoras. ZONA C-SECTOR 9**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| S-22 | Relleno tierras |
| S-17/S-23 | Residuo inerte (zona deportiva/equipamiento sanitario) |
| S-22 | Residuo inrete y no inerte (zona ampliación cementerio) |
| SG-7 | Residuo inerte (zona deportiva/equipamiento sanitario) |
| SG-8 | Zona sales aluminio |

**SUELO INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **RESIDENCIAL (Exterior deportivo)** | | **S-23** |
| Mercurio | >0,011 | 0,66 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial Interior (área cementerio)** | | **S-22** |
| TCE | 0,012 | 0,019 |
| TPH alif. C10-C16 | >38 | 71 |
| TPH alif. C16-C22 | >20 | 140 |
| TPH arom. C16-C22 | >130 | 140 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial Exterior (área cementerio)** | | **S-22** |
| TPH alif. C10-C16 | >38 | 71 |
| TPH alif. C16-C22 | >20 | 140 |
| TPH arom. C16-C22 | >130 | 140 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial Sanitario (Interior)** | | **S-17** |
| Mercurio | 0,011 | 0,24 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial Sanitario (Exterior)** | | **S-17** |
| Mercurio | >0,011 | 0,24 |

**SUELO INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial (Interior)** | | **S-22** |
| TPH alif. C10-C16 | >38 | 71 |
| TPH alif. C16-C22 | >20 | 140 |
| TPH arom. C16-C22 | >130 | 140 |

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. detectada (PDM) (mg/kg) |
|---|---|---|
| **Comercial (Exterior)** | | **S-22** |
| TPH alif. C10-C16 | >38 | 71 |
| TPH alif. C16-C22 | >20 | 140 |
| TPH arom. C16-C22 | >130 | 140 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

**Propuesta medidas correctoras. ZONA C-SECTOR 9**

**AGUA SUBTERRÁNEA INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) |
|---|---|---|

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) |
|---|---|---|
| Residencial (Exterior deportiv | | SP-19 |
| TPH alif. C10-C | >7,6E-4 | 0,078 |
| TPH alif. C16-C | >1,7E-5 | 0,098 |

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) |
|---|---|---|
| Comercial-todos los usos (Interior) | | SP-19 |
| TPH alif. C10-C16 | >7,6E-4 | 0,078 |
| TPH alif. C16-C22 | >1,7E-5 | 0,098 |

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) |
|---|---|---|
| Comercial-todos los usos (Ex | | SP-19 |
| TPH alif. C10-C | >7,6E-4 | 0,078 |
| TPH alif. C16-C | >1,7E-5 | 0,098 |

**GASES INHALACIÓN**

| ESCENARIOS | Conc. admisible (mg/m3) | Conc. Detectada (PDM) (mg/m3) | | | |
|---|---|---|---|---|---|
| Comercial interior | | SG-7 | SG-8-10-II | SG-8-10-III | SG-8-5-I |
| Naftaleno | 0,57 | | <0,83 | <0,83 | <0,83 |
| Triclorometano | 0,23 | <0,52 | <0,83 | <0,83 | <0,83 |
| Tetraclorometano | 0,35 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,2-DCA | 0,2 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1,2-TCA | 0,33 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,1,2,2-Tetracloroetano | 0,09 | <0,52 | <0,83 | <0,83 | <0,83 |
| 1,2-Dicloropropano | 0,75 | | <0,83 | <0,83 | <0,83 |

No se superan las concentraciones admisibles
para los siguientes escenarios:

COMERCIAL/RESIDENCIAL/DEPORTISTA EXTERIOR

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

**Propuesta medidas correctoras. ZONA SELLADO**

| PDM ASOCIADO AL SECTOR | TIPOLOGÍA RESIDUO |
|---|---|
| S-8 | Relleno tierras |
| S-12 | Residuo inerte |
| S-3/S-5/S-9/S-10/S-11/SP-12 | Residuo inrete y no inerte |

## SUELO INHALACIÓN

| ESCENARIOS | Conc. admisible (mg/kg) | Conc. Detectada (PDM) (mg/kg) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **RESIDENCIAL (Uso exterior) Tipología suelo limos** | | **S-9** | **S-10** | **S-11** | **SP-12** | **S-16** | **S-18** | **S-3** | **S-5** |
| Trimetilbenceno 1,2,4 | 12 | - | - | - | - | - | - | - | 19 |
| Mercurio | >0,016 | 0,08 | 0,06 | 0,20 | 0,48 | 5 | - | 0,13 | - |
| TPH arom. C10-C16 | 25 | - | 590 | - | - | - | - | 1900 | 200 |
| TPH alif. C10-C16 | >38 | - | 590 | 50 | 130 | - | - | - | - |
| TPH alif. C16-C22 | >20 | - | - | - | - | - | - | 2500 | 1900 |
| TPH arom. C16-C22 | >130 | - | - | - | - | - | - | 1900 | 200 |
| **RESIDENCIAL (Uso exterior) Tipología suelo gravas y limos** | | | | | | | | | |
| 1,2-DCA | 0,14 | - | 0,5 | - | - | - | - | - | 19 |
| 1,2,4-3MetilBenceno | 1,2 | - | 8,1 | - | - | - | - | 0,13 | - |
| 1,3,5-3MetilBenceno | 0,93 | - | 2 | - | - | - | - | 1900 | 200 |
| TPH arom. C10-C16 | 74 | - | 590 | - | - | - | - | - | - |
| Mercurio | >6,6E-3 | 0,08 | 0,06 | 0,2 | | 5 | - | - | - |
| TPH alif. C10-C16 | >38 | - | 590 | 50 | 130 | - | - | 2500 | 1900 |
| TPH alif. C16-C22 | >20 | 71 | 300 | 70 | - | - | 51 | 1900 | 200 |

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

**Propuesta medidas correctoras. ZONA SELLADO**

## AGUA SUBTERRÁNEA INHALACIÓN

| ESCENARIOS | Conc. admisible (mg/l) | Conc. Detectada (PDM) (mg/l) | | | | | |
|---|---|---|---|---|---|---|---|
| **RESIDENCIAL (Usos exterior) Tipología suelo limos** | | **SP-13** | **SP-15** | **SP-16** | **SP-17** | **POZO NUEVO** | **POZO VIEJO** |
| TPH alif. C10-C16 | >7,6E-4 | 4 | 2,2 | 0,6 | 0,31 | 2,2 | 2,5 |
| TPH alif. C16-C22 | >1,7E-5 | 0,98 | 0,77 | 0,52 | 0,34 | 0,71 | 0,51 |
| **RESIDENCIAL (Usos exterior) Tipología suelo gravas y limos** | | | | | | | |
| TPH alif. C10-C16 | >7,6E-4 | 4 | 2,2 | 0,6 | 0,31 | 2,2 | 2,5 |

## GASES (soil gas) INHALACIÓN

No se superan las concentraciones admisibles
para los siguientes escenarios:

RESIDENCIAL/PASEANTE/DEPORTISTA EXTERIOR

*-, no detectado*
*>XX, concentración admisible superior al límite de saturación*

# Annex 5

# Valoració de la dispersió atmosfèrica de gasos provinents de la massa de rebliment de l'abocador

## VALORACIÓ DE LA DISPERSIÓ ATMOSFÈRICA DE GASOS PROVINENTS DE LA MASSA DE REBLIMENT DE L'ABOCADOR

El transport atmosfèric respon a un fenomen físic de dispersió longitudinal i lateral amb la consegüent dilució de les concentracions en aire amb la distància, en el que no intervenen les característiques dels contaminants en particular (en aquest cas, sota un escenari conservador, i donat l'alt nombre de contaminants detectats, no s'han considerat fenòmens de degradació o reactivitat química), d'aquesta manera és possible, coneixent les concentracions de partida detectades en la massa de rebliment, estimar la concentració final en el receptor.

S'ha emprat el model de càlcul Screen 3 d'USEPA per a una font d'àrea (en aquest cas l'abocador objecte d'estudi), que permet calcular mitjançant una equació Gaussiana les concentracions a nivell de sòl.

Les hipòtesis de partida considerades en el desenvolupament del model són;

- S'estima una concentració inicial de partida d'1 $mg/m^3$
- Taxa d'emissió de contaminant (transport des de la massa de rebliment a la superfície): 6,66 10-14 $g/s\ cm^2$
- Altura de la font d'emissió: 0 m
- Àrea d'emissió: 120.000 $m^2$ (considerant a l'àrea corresponent al residus de Classe II i Classe III), definida per un eix major de 480 m'i un eix menor de 250 m
- Altura del receptor sobre la superfície del sòl: 1,5 metres (altura recomanada en estudis de seguretat i higiene).
- Terreny urbà/rural; Rural (el transport es dóna en zona considerada rural fins a la seva arribada al receptor)
- Direcció del vent; la direcció del vent queda definida en cada cas per la localització del receptor a avaluar respecte a la font emissora (en el desenvolupament del model es prendrà com a referència la situació respecte a l'eix major de la font)
- S'avalua la dispersió en funció a les diferents categories d'estabilitat de Pasquill-Gilford, seleccionant aquella en què la situació sigui més adversa (menor grau de dilució)
- L'impacte final sobre el receptor serà avaluat en funció a la categoria d'estabilitat i velocitat del vent més adverses, avaluant posteriorment la incidència d'aquesta situació en funció a la seva probabilitat d'ocurrencia mitjançant l'estudi de la matriu d'estabilitats de la zona

La taxa d'emissió de contaminant s'ha determinat a partir de l'expressió següent:

$$F = (C - CO) * Deff * (1/LT)$$

On:

F = Taxa d'emissió del contaminant ($g/s \cdot cm^2$).

C = Concentració del contaminant a la font. S'ha pres un valor de partida de $10^{-9}$ $g/cm^3$ (1 $mg/m^3$).

CO = Concentració inicial en superfície. Prenent un valor nul, la transferència és la màxima possible, és a dir, es tracta de la situació més desfavorable (gradient màxim).

Deff = Difusivitat efectiva. Característica de cada compost. S'ha adoptat un valor per defecte de $10^{-2}$ $cm^2/s$ (valor representatiu de compostos d'alta mobilitat en terrenys amb gran capacitat de difusió).

LT = Gruix d'estrat. S'ha adoptat un valor de 30 cm

El resultat presenta un valor estàndard de $F= 0,3 \cdot 10^{-12}$ $g/cm^2 \cdot s$

A la següent taula es resumeixen les propietats dels receptors puntuals considerats;

Taula 1. Descripció dels receptors

| Receptor | Mínima distància respecte a la font (m) | Direcció del vent | Ubicació respecte a la font (eix principal) |
|---|---|---|---|
| Parc Tecnològic | 70 | NW → SE | 135º |
| Nucli urbà Cerdanyola del Vallès | 600 | SW → NE | 90º |

A la següent figura es mostra el model conceptual generat al desenvolupament matemàtic del transport atmosfèric;

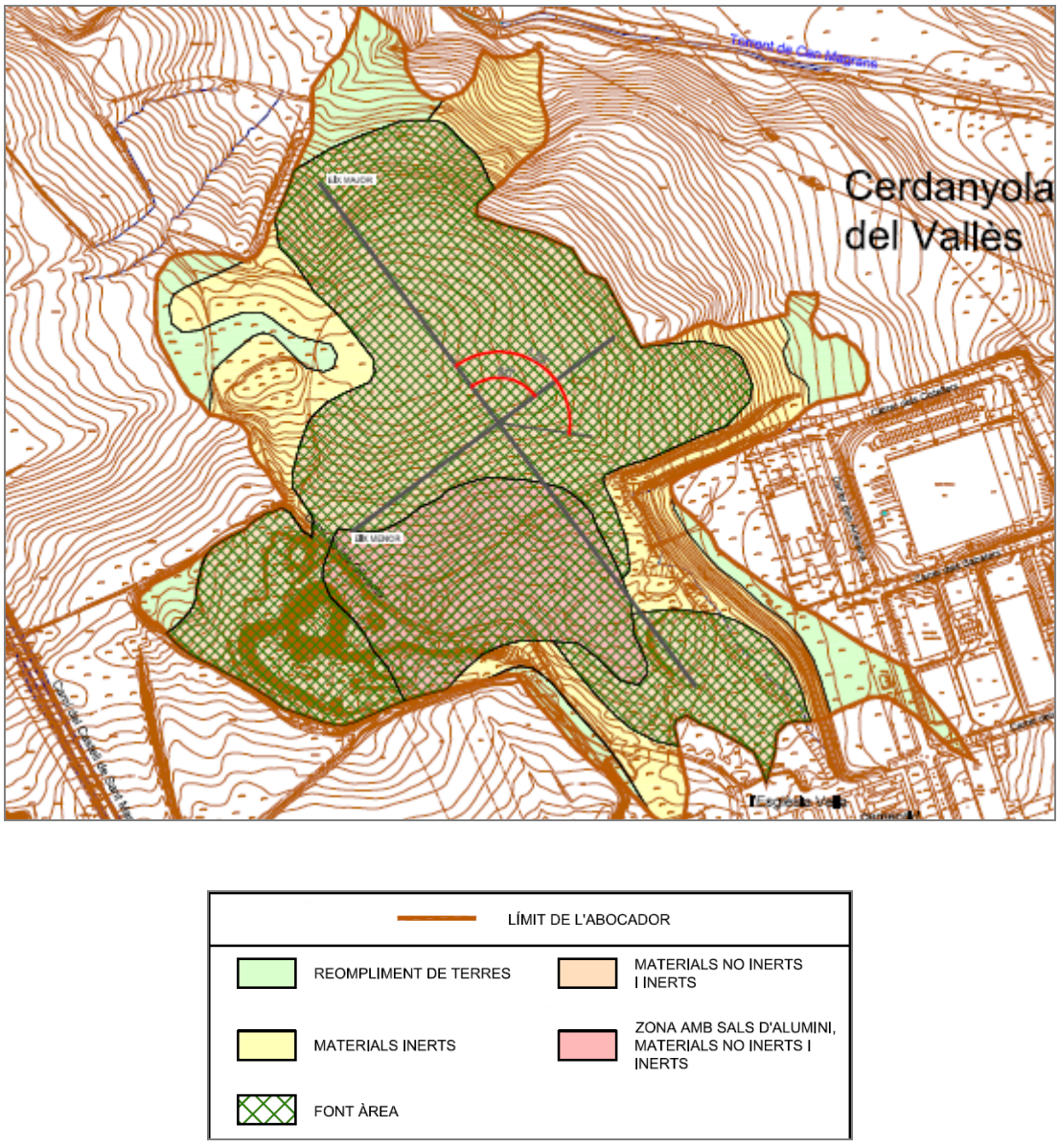



Figura 1. Model conceptual de dispersió atmosfèrica

Prenent una concentració inicial estàndard d'1 mg/m$^3$ de contaminant, és possible calcular el grau de dilució que pateixen els gasos presents en la massa de rebliment sobre el receptor a causa de fenòmens físics de dispersió, d'aquesta manera és possible estimar la concentració final sobre el receptor per a qualsevol mesura inicial sobre l'abocador.

Taula 2. Parc Tecnològic. Impacte per dispersió atmosfèrica de gasos d'abocador i composts orgànics

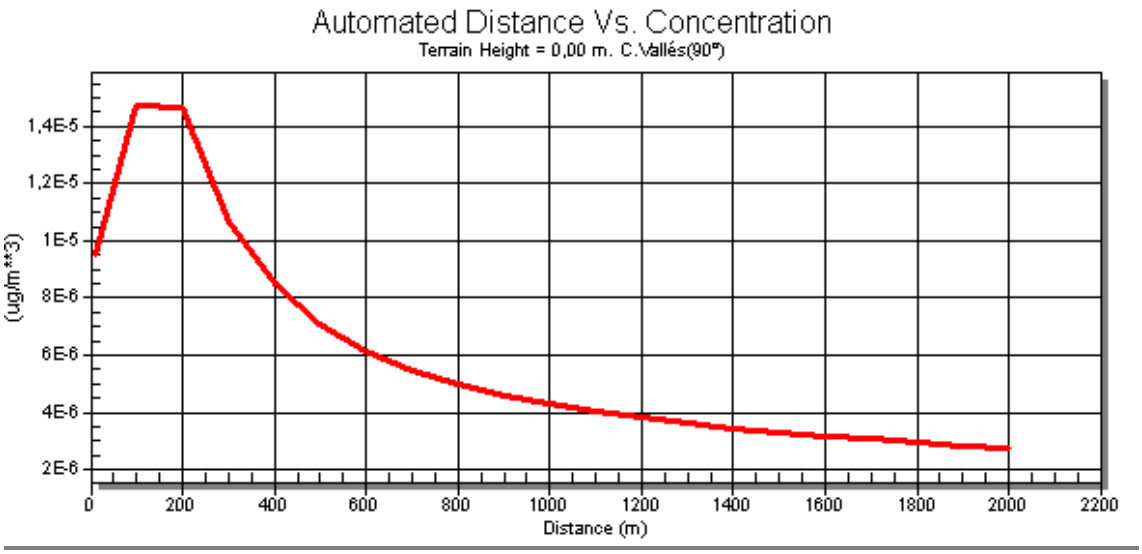
| Estabilidad | Màxima concentració ($mg/m^3$) | Velocitat del vent (m/s) | Freqüència (%) |
|---|---|---|---|
| A- molt inestable | 0,55E-08 | 1 | 0,0 |
| B- inestable | 0,67E-08 | 1 | 0,01 |
| C- lleugerament inestable | 0,83E-08 | 1 | 0,02 |
| D-neutra | 0,11E-07 | 1 | 0,11 |
| E- lleugerament estable | 0,13E-07 | 1 | 0,06 |
| F-estable | 0,16E-07 | 1 | 0,15 |
| Total | | | 0,35 |

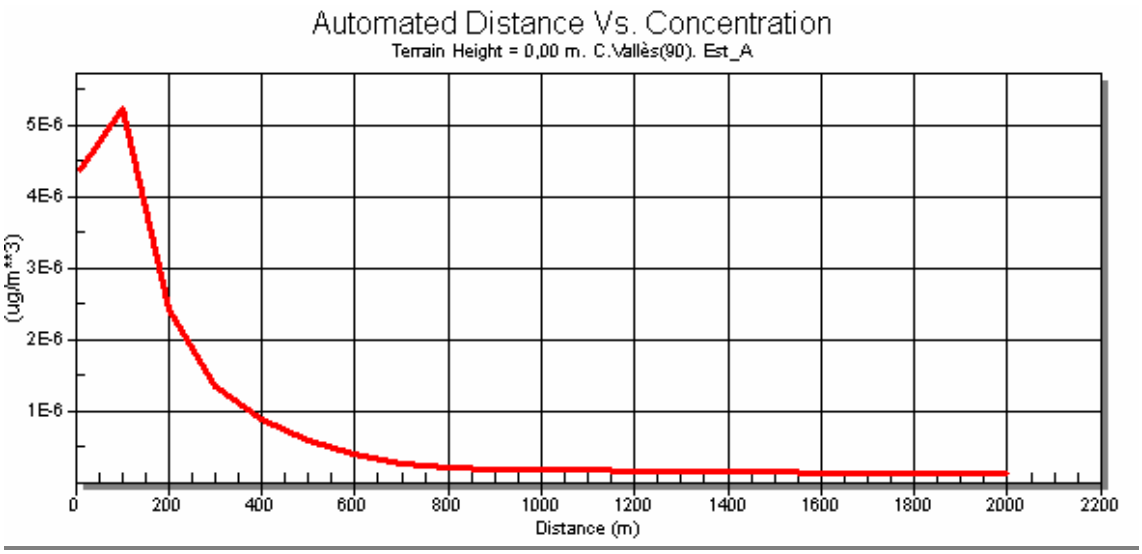
Taula 3. Nucli urbà Cerdanyola del Vallès. Impacte per dispersió atmosfèrica de gasos d'abocador i composts orgànics

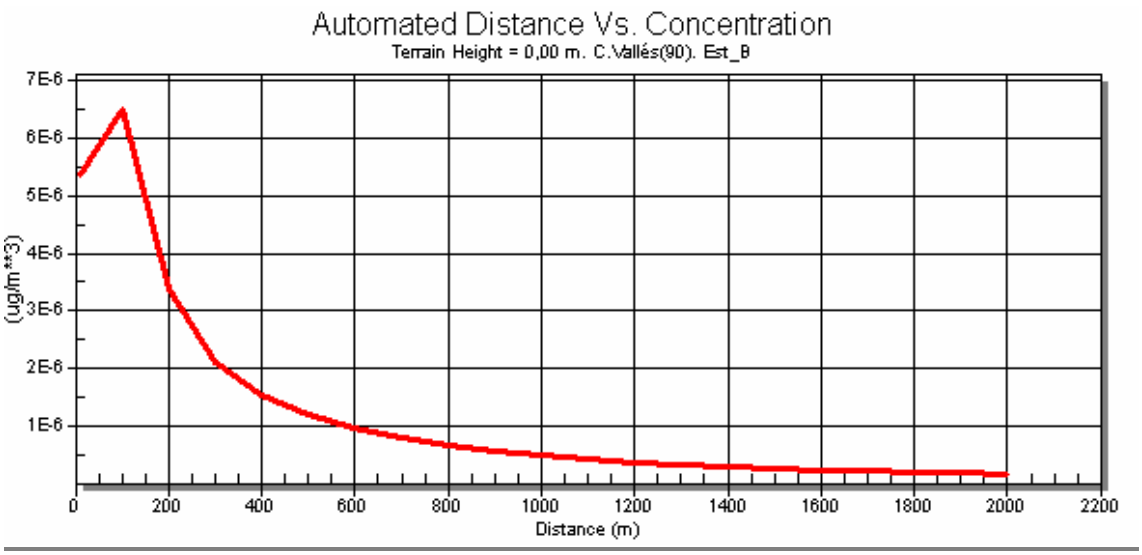
| Estabilidad | Màxima concentració ($mg/m^3$) | Velocitat del vent (m/s) | Freqüència (%) |
|---|---|---|---|
| A- molt inestable | 0,38E-09 | 1 | 0,0 |
| B- inestable | 0,9E-09 | 1 | 0,03 |
| C- lleugerament inestable | 1,16E-08 | 1 | 0,04 |
| D-neutra | 0,29E-08 | 1 | 0,18 |
| E- lleugerament estable | 0,41E-08 | 1 | 0,11 |
| F-estable | 0,61E-08 | 1 | 0,23 |
| Total | | | 0,59 |

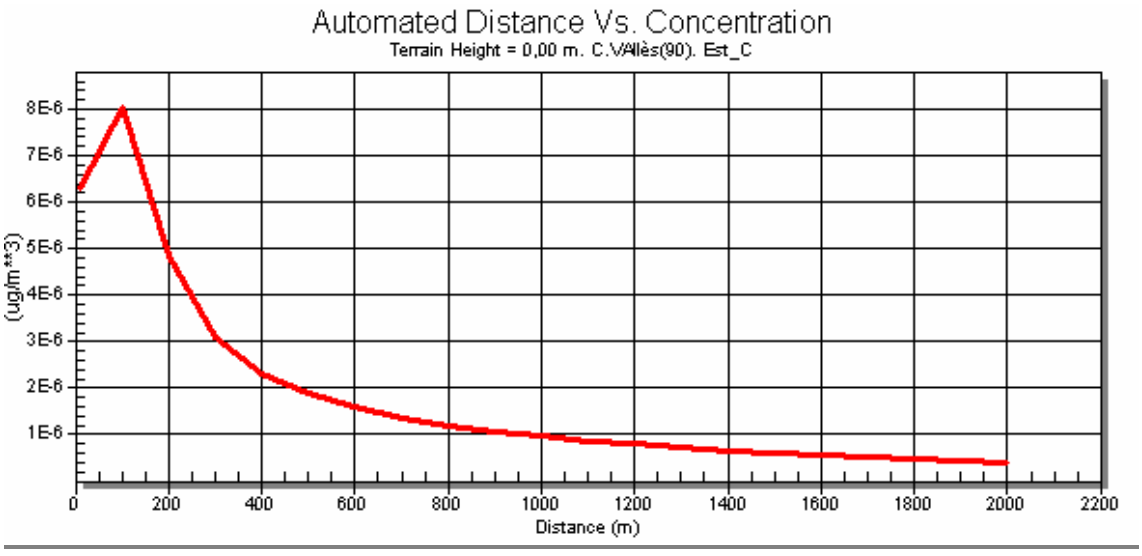
En els següents gràfics es presenta l'evolució de la concentració amb la distància per a cadascun dels receptors i categories d'estabilitat avaluades

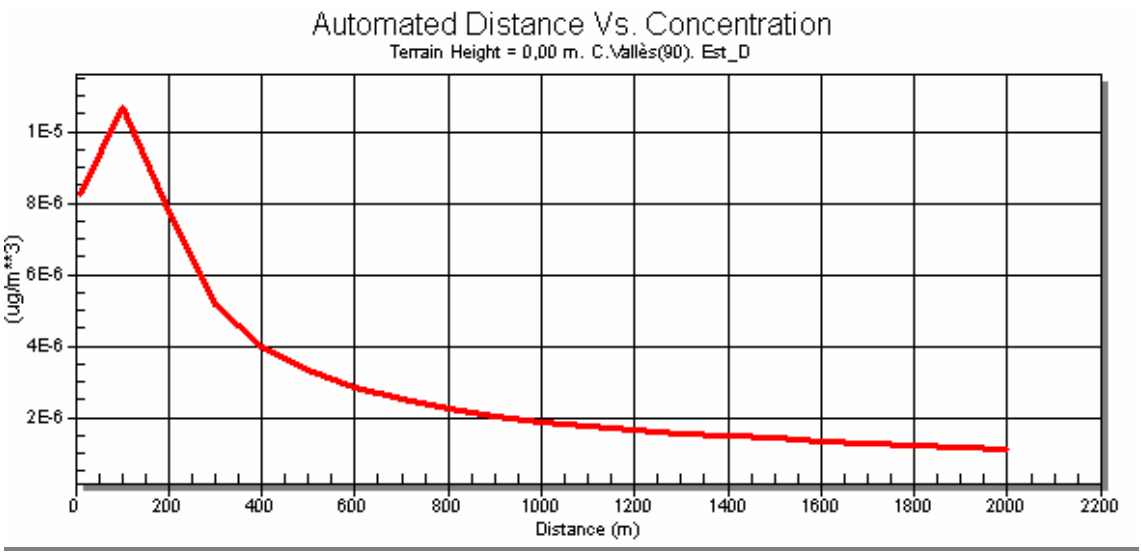
## Nucli urbà Cerdanyola de Vallès (90º eix major)

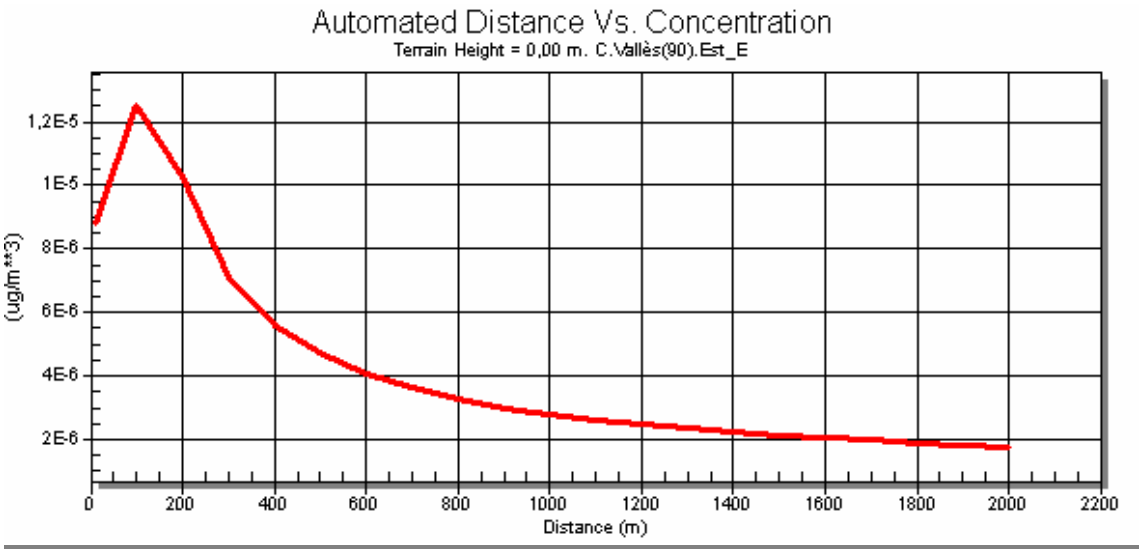


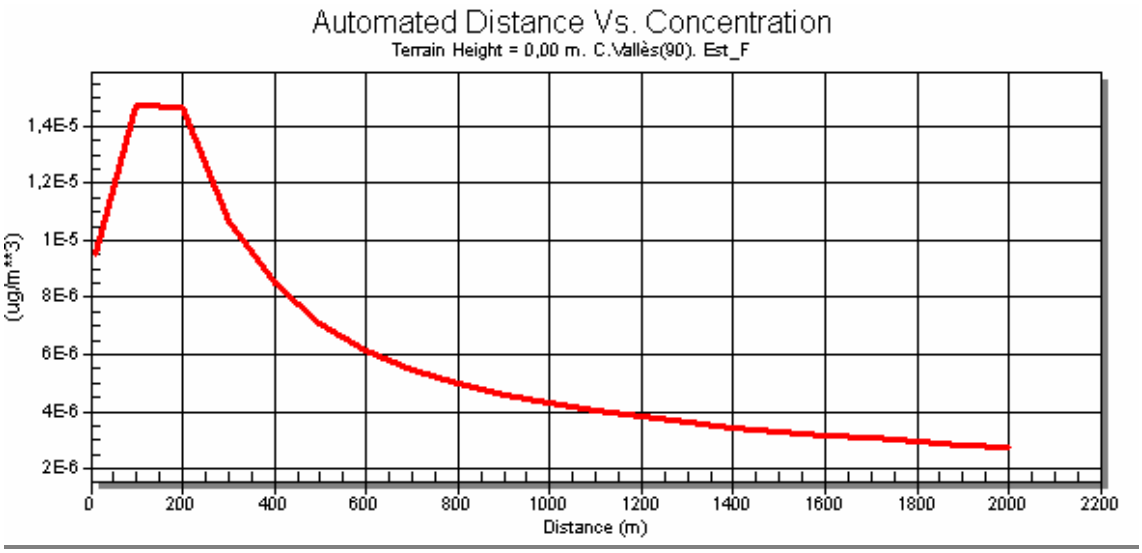




Automated Distance Vs. Concentration
Terrain Height = 0,00 m. C.Vallés(90). Est_B
(ug/m**3)
7E-6
6E-6
5E-6
4E-6
3E-6
2E-6
1E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)

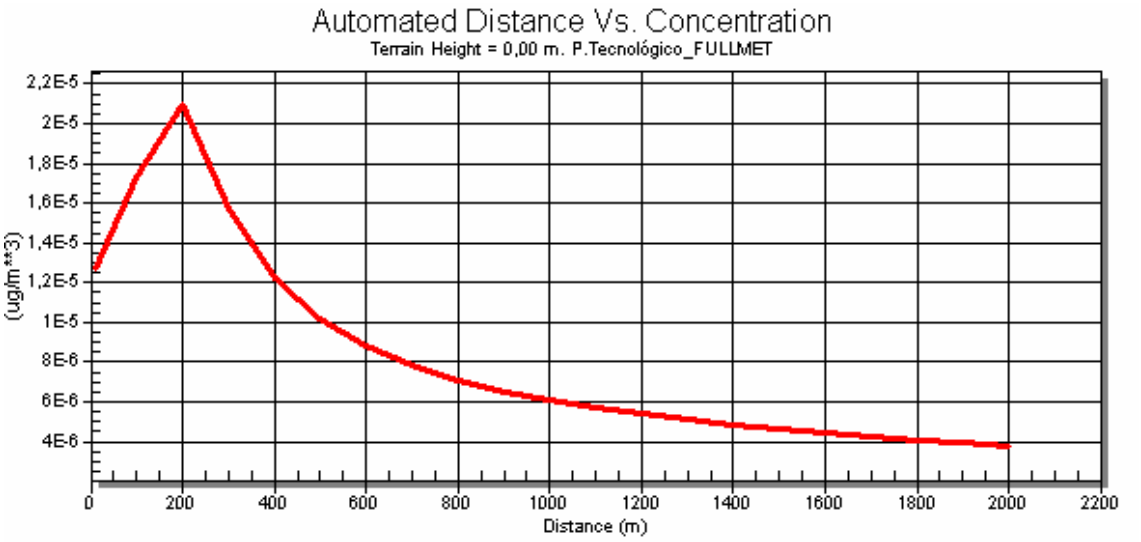

Automated Distance Vs. Concentration
Terrain Height = 0,00 m. C.Vallès(90). Est_C
(ug/m**3)
8E-6
7E-6
6E-6
5E-6
4E-6
3E-6
2E-6
1E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)

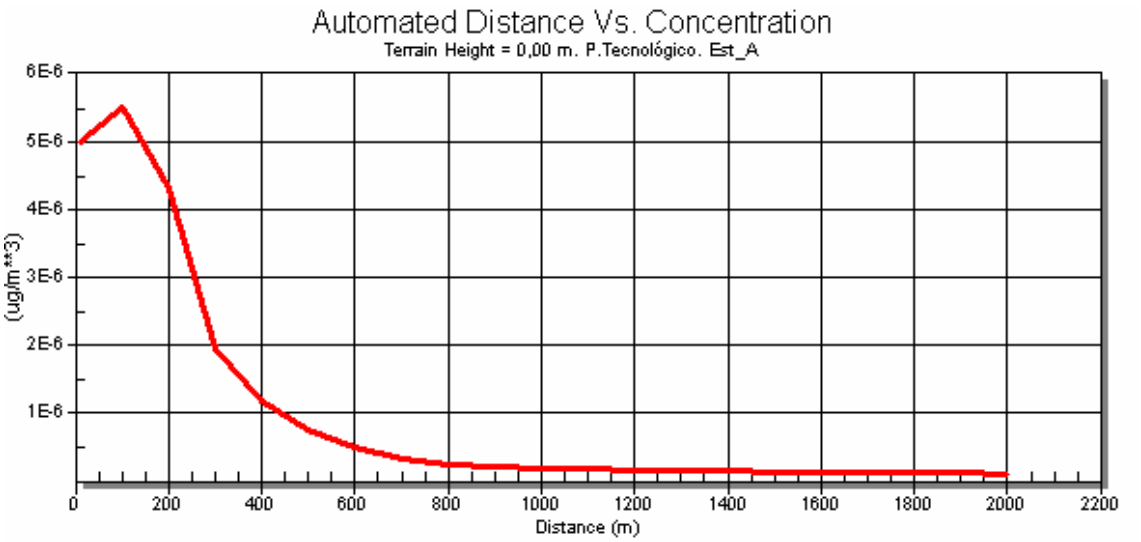

Automated Distance Vs. Concentration
Terrain Height = 0,00 m. C.Vallès(90). Est_D
(ug/m**3)
1E-5
8E-6
6E-6
4E-6
2E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)

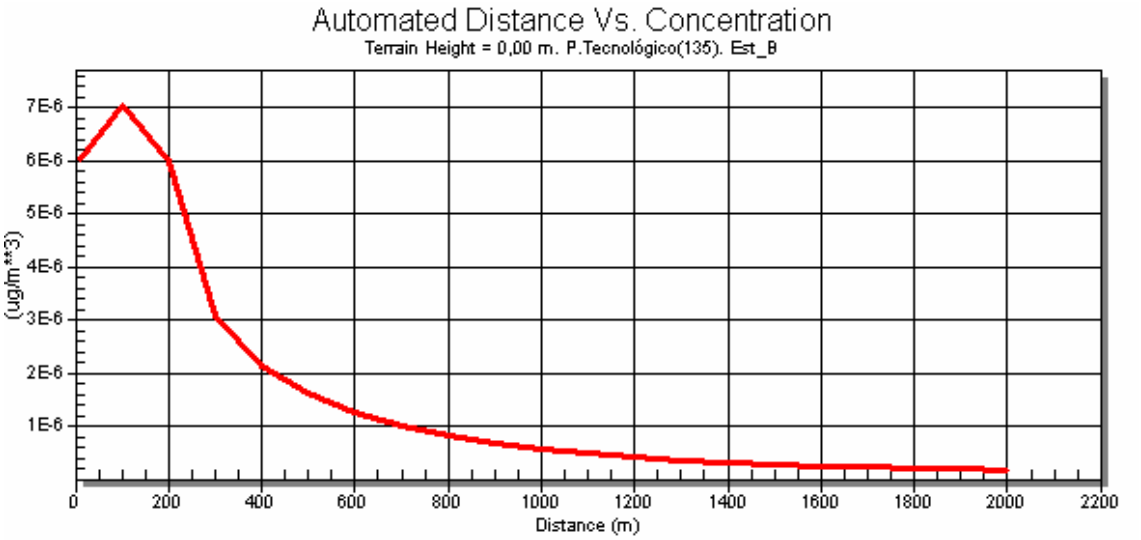

Automated Distance Vs. Concentration
Terrain Height = 0,00 m. C.Vallès(90).Est_E
(ug/m**3)
1,2E-5
1E-5
8E-6
6E-6
4E-6
2E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)

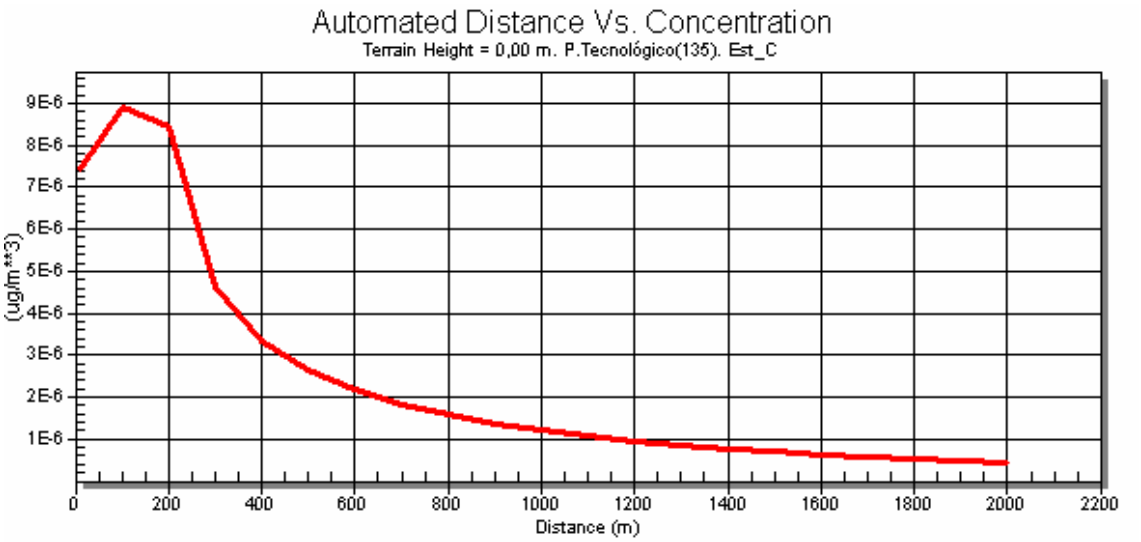

Automated Distance Vs. Concentration
Terrain Height = 0,00 m. C.Vallès(90). Est_F
1,4E-5
1,2E-5
1E-5
8E-6
6E-6
4E-6
2E-6
(ug/m**3)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)

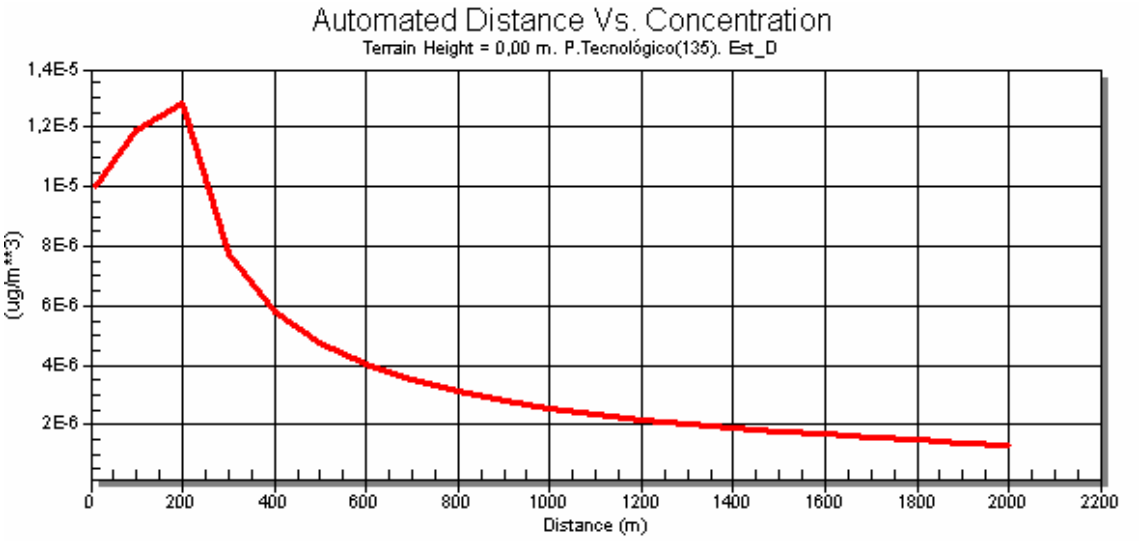
## Parc Tecnològic (135º eix major)

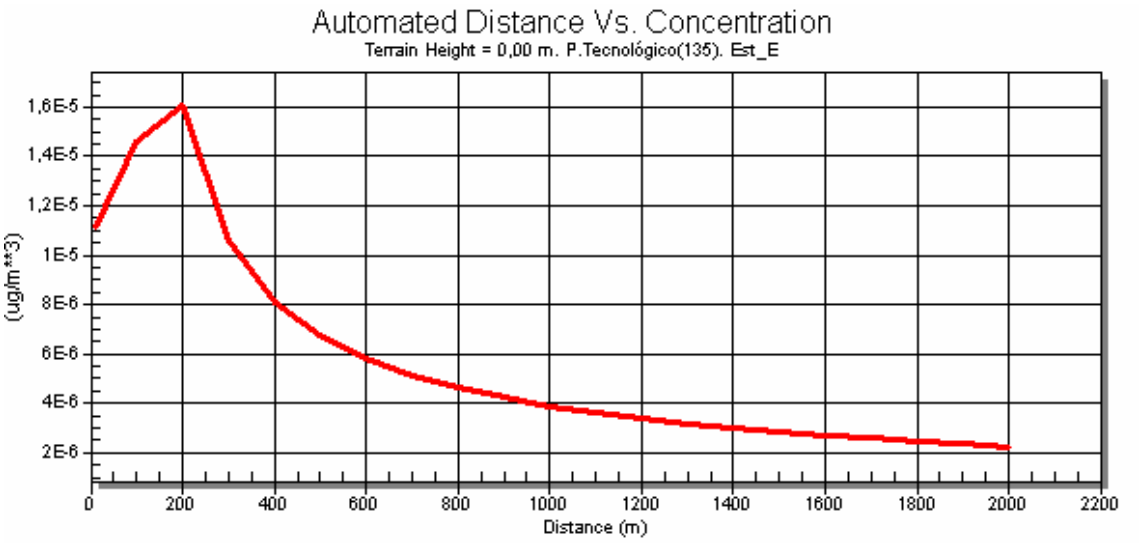


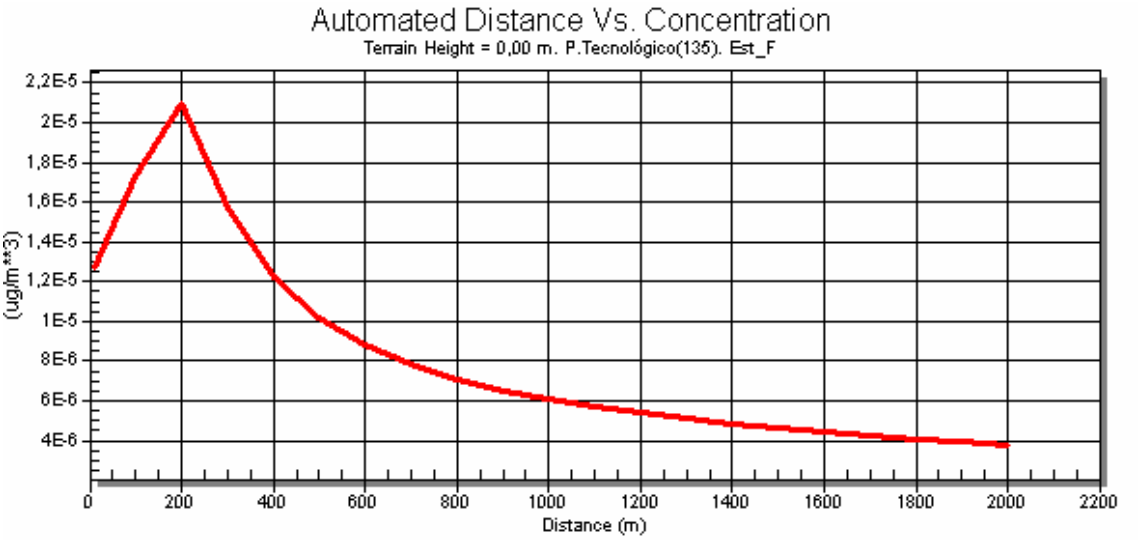




Automated Distance Vs. Concentration
Terrain Height = 0,00 m. P.Tecnológico(135). Est_B
(ug/m**3)
7E-6
6E-6
5E-6
4E-6
3E-6
2E-6
1E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)


Automated Distance Vs. Concentration
Terrain Height = 0,00 m. P.Tecnológico(135). Est_C
(ug/m**3)
9E-6
8E-6
7E-6
6E-6
5E-6
4E-6
3E-6
2E-6
1E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)


Automated Distance Vs. Concentration
Terrain Height = 0,00 m. P.Tecnológico(135). Est_D
(ug/m**3)
1,4E-5
1,2E-5
1E-5
8E-6
6E-6
4E-6
2E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)


Automated Distance Vs. Concentration
Terrain Height = 0,00 m. P.Tecnológico(135). Est_E
(ug/m**3)
1,6E-5
1,4E-5
1,2E-5
1E-5
8E-6
6E-6
4E-6
2E-6
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
Distance (m)




A la Taula 4 es presenta la valoració de les concentracions d'inhalació crònica admissibles (d'acord amb les referències toxicològiques empleades en el desenvolupament de l'anàlisi de riscos) enfront de les concentracions esperades en els receptors valorats.

Com a referència s'han pres les màximes concentracions detectades en la massa de rebliment, assumint en aquest cas que aquesta concentració és constant al llarg de tota la font àrea considerada i que el transport es dóna de forma permanent cap al receptor.

Taula 4. Valoració de les concentracions esperades en el receptor per dispersió atmosfèrica davant els nivells de referència per a inhalació crònica

| Compost | Concentració d'exposició admissible ($mg/m^3$) | Màxima concentració detectada en massa de rebliment (*soil gas*) ($mg/m^3$) | Màxima concentració esperada en Parc Tecnològic ($mg/m^3$) | Màxima concentració esperada en Cerdanyola del Vallès ($mg/m^3$) |
|---|---|---|---|---|
| | | | a = 1,00E-07 | a = 1,00E-08 |
| Benzè | 1,71E-03 | 1,83E+01 | 1,83E-06 | 1,83E-07 |
| Toluè | 2,60E-01 | 9,00E+01 | 9,00E-06 | 9,00E-07 |
| Etilbenzè | 1,00E+00 | 3,17E+01 | 3,17E-06 | 3,17E-07 |
| Estirè | 2,60E-01 | <0,17 | 1,67E-08 | 1,67E-09 |
| n-Propilbenzè | 4,00E-01 | 1,20E+00 | 1,20E-07 | 1,20E-08 |
| Isopropilbenzè | 4,00E-01 | <0,17 | 1,67E-08 | 1,67E-09 |
| n-Butilbenzè | 2,70E-01 | <0,17 | 1,67E-08 | 1,67E-09 |
| iso-Butilbenzè | 2,70E-01 | 3,50E-01 | 3,50E-08 | 3,50E-09 |
| tert-Butibenzè | 2,70E-01 | <0,17 | 1,67E-08 | 1,67E-09 |
| sec-Butilbenzè | 2,70E-01 | 0,20 | 2,00E-08 | 2,00E-09 |
| o-Xilè | 7,00E-01 | 1,05E+01 | 1,05E-06 | 1,05E-07 |
| m,p-Xilè | 7,00E-01 | 3,17E+01 | 3,17E-06 | 3,17E-07 |
| Xilens (sum) | 1,00E-01 | 4,17E+01 | 4,17E-06 | 4,17E-07 |
| 2-Etiltoluè | 4,00E-01 | 2,33E+00 | 2,33E-07 | 2,33E-08 |
| 3/4-Etiltoluè | nd | 2,67E+00 | 2,67E-07 | 2,67E-08 |
| p-Cimè | 3,00E-01 | 2,33E+00 | 2,33E-07 | 2,33E-08 |
| 4-terc-Butiltoluè | nd | <0,17 | 1,67E-08 | 1,67E-09 |
| 1,3-Diisopropilbenzè | nd | <0,17 | 1,67E-08 | 1,67E-09 |
| 1,3,5-Trimetilbenzè | 6,00E-03 | 1,53E+00 | 1,53E-07 | 1,53E-08 |
| 1,2,4-Trimetilbenzè | 6,00E-03 | 4,00E+00 | 4,00E-07 | 4,00E-08 |
| 1,2,3,5-Tetrametilbenzè | nd | <0,17 | 1,67E-08 | 1,67E-09 |
| 1,2,4,5-Tetrametilbenzè | nd | <0,17 | 1,67E-08 | 1,67E-09 |
| Naftalè | 3,00E-03 | 8,33E-01 | 8,33E-08 | 8,33E-09 |
| Tetralí | nd | <0,17 | 1,67E-08 | 1,67E-09 |
| TPH volàtil C6-C8 alifàtic | 1,84E+01 | 4,00E+02 | 4,00E-05 | 4,00E-06 |
| TPH volàtil C8-C10 alifàtic | 1,00E+00 | 2,83E+01 | 2,83E-06 | 2,83E-07 |
| TPH volàtil C10-C12 alifàtic | 1,00E+00 | 6,67E+00 | 6,67E-07 | 6,67E-08 |
| TPH volàtil C6 aromàtic | 3,40E-01 | 11,17 | 1,12E-06 | 1,12E-07 |
| TPH volàtil C7-C8 aromàtic | 3,40E-01 | 65,00 | 6,50E-06 | 6,50E-07 |
| TPH volàtil C9-C10 aromàtic | 2,00E-01 | 3,33 | 3,33E-07 | 3,33E-08 |

| Compost | Concentració d'exposició admissible ($mg/m^3$) | Màxima concentració detectada en massa de rebliment (*soil gas*) ($mg/m^3$) | Màxima concentració esperada en Parc Tecnològic ($mg/m^3$) | Màxima concentració esperada en Cerdanyola del Vallès ($mg/m^3$) |
|---|---|---|---|---|
| | | | a = 1,00E-07 | a = 1,00E-08 |
| TPH volàtil C11-C13 aromàtic | 2,00E-01 | - | - | - |
| Diclormetà | 2,10E-02 | <3,33 | 3,33E-07 | 3,33E-08 |
| Triclormetà | 4,30E-04 | <0,83 | 8,33E-08 | 8,33E-09 |
| Tetraclormetà | 6,60E-04 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,1-Dicloretà | 5,00E-01 | 8,50E+00 | 8,50E-07 | 8,50E-08 |
| 1,2-Dicloretà | 3,85E-04 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,1,1-Tricloretà | 2,20E+00 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,1,2-Tricloretà | 6,25E-04 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,1,2,2-Tetracloretà | 1,35E-03 | <0,83 | 8,33E-08 | 8,33E-09 |
| Tricloretilè | 8,77E-05 | 2,00E+00 | 2,00E-07 | 2,00E-08 |
| Tetracloretilè | 2,50E-01 | 3,17E+00 | 3,17E-07 | 3,17E-08 |
| Monoclorbenzè | 5,00E-02 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,1-Dicloretilè | 2,00E-01 | <0,83 | 8,33E-08 | 8,33E-09 |
| cis -1,2-Dicloretilè | 7,90E-01 | 2,83E+01 | 2,83E-06 | 2,83E-07 |
| trans -1,2-Dicloretilè | 5,60E-02 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,2-Diclorpropà | 4,00E-03 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,4-Diclorbutà | 7,00E-03 | <0,83 | 8,33E-08 | 8,33E-09 |
| Clorur de vinil | 1,00E-02 | 2,83E+01 | 2,83E-06 | 2,83E-07 |

A la Taula 5 es presenta la valoració dels contaminants rellevants per exposició aguda front als nivells d'exposició admisibles

Taula 5. Valoració de les concentracions esperades en el receptor per dispersió atmosfèrica davant els nivells de referència per a inhalació aguda

| Compost | Concentració d'exposició admissible ($mg/m^3$) | Màxima concentració detectada en massa de rebliment (soil gas) ($mg/m^3$) | Màxima concentració esperada en Parc Tecnològic ($mg/m^3$) | Màxima concentració esperada en Cerdanyola Vallès ($mg/m^3$) |
|---|---|---|---|---|
| | | | a = 1,00E-07 | a = 1,00E-08 |
| Benzè | 2,88E-02 | 1,83E+01 | 1,83E-06 | 1,83E-07 |
| Toluè | 3,84E+02 | 9,00E+01 | 9,00E-06 | 9,00E-07 |
| Etilbenzè | 8,84E+02 | 3,17E+01 | 3,17E-06 | 3,17E-07 |
| Estirè | 1,72E+02 | <0,17 | 1,67E-08 | 1,67E-09 |
| Isopropilbenzè | 2,50E+02 | <0,17 | 1,67E-08 | 1,67E-09 |
| o-Xilè | 4,42E+02 | 1,05E+01 | 1,05E-06 | 1,05E-07 |
| m,p-Xilè | 4,42E+02 | 3,17E+01 | 3,17E-06 | 3,17E-07 |
| Xilens (sum) | 4,42E+02 | 4,17E+01 | 4,17E-06 | 4,17E-07 |
| Naftalè | 8,00E+01 | 8,33E-01 | 8,33E-08 | 8,33E-09 |
| Diclormetà | 2,10E+00 | <3,33 | 3,33E-07 | 3,33E-08 |
| 1,1,1-Tricloretà | 1,11E+03 | 8,33E-01 | 8,33E-08 | 8,33E-09 |
| Tricloretilè | 1,08E+01 | 2,00E+00 | 2,00E-07 | 2,00E-08 |
| Tetracloretilè | 6,89E+02 | 3,17E+00 | 3,17E-07 | 3,17E-08 |
| Monoclorbenzè | 7,00E+01 | <0,83 | 8,33E-08 | 8,33E-09 |
| 1,2-Diclorpropà | 5,17E+02 | <0,83 | 8,33E-08 | 8,33E-09 |
| Clorur de vinil | 1,30E+00 | 2,83E+01 | 2,83E-06 | 2,83E-07 |
| Amoníac | 3,60E+01 | 3,92E+02 | 3,92E-05 | 3,92E-06 |

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)         =       1.5000
   URBAN/RURAL OPTION          =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =      90.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.9493E-05    6     1.0    1.0 10000.0    0.00     90.
   100.  0.1472E-04    6     1.0    1.0 10000.0    0.00     90.
   200.  0.1466E-04    6     1.0    1.0 10000.0    0.00     90.
   300.  0.1064E-04    6     1.0    1.0 10000.0    0.00     90.
   400.  0.8477E-05    6     1.0    1.0 10000.0    0.00     90.
   500.  0.7112E-05    6     1.0    1.0 10000.0    0.00     90.
   600.  0.6165E-05    6     1.0    1.0 10000.0    0.00     90.
   700.  0.5484E-05    6     1.0    1.0 10000.0    0.00     90.
   800.  0.4981E-05    6     1.0    1.0 10000.0    0.00     90.
   900.  0.4596E-05    6     1.0    1.0 10000.0    0.00     90.
  1000.  0.4283E-05    6     1.0    1.0 10000.0    0.00     90.
  1100.  0.4026E-05    6     1.0    1.0 10000.0    0.00     90.
  1200.  0.3811E-05    6     1.0    1.0 10000.0    0.00     90.
  1300.  0.3624E-05    6     1.0    1.0 10000.0    0.00     90.
  1400.  0.3459E-05    6     1.0    1.0 10000.0    0.00     90.
  1500.  0.3311E-05    6     1.0    1.0 10000.0    0.00     90.
  1600.  0.3179E-05    6     1.0    1.0 10000.0    0.00     90.
  1700.  0.3060E-05    6     1.0    1.0 10000.0    0.00     90.
  1800.  0.2952E-05    6     1.0    1.0 10000.0    0.00     90.
  1900.  0.2853E-05    6     1.0    1.0 10000.0    0.00     90.
  2000.  0.2765E-05    6     1.0    1.0 10000.0    0.00     90.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   150.  0.1694E-04    6     1.0    1.0 10000.0    0.00     90.

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
   600.  0.6165E-05    6     1.0    1.0 10000.0    0.00     90.
```





```
     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.1694E-04      150.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************



 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)         =       1.5000
   URBAN/RURAL OPTION          =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =      90.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  1 ONLY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.4372E-05    1     1.0    1.0   320.0    0.00     90.
   100.  0.5223E-05    1     1.0    1.0   320.0    0.00     90.
   200.  0.2408E-05    1     1.0    1.0   320.0    0.00     90.
   300.  0.1349E-05    1     1.0    1.0   320.0    0.00     90.
   400.  0.8663E-06    1     1.0    1.0   320.0    0.00     90.
   500.  0.5726E-06    1     1.0    1.0   320.0    0.00     90.
   600.  0.3824E-06    1     1.0    1.0   320.0    0.00     90.
   700.  0.2690E-06    1     1.0    1.0   320.0    0.00     90.
   800.  0.2127E-06    1     1.0    1.0   320.0    0.00     90.
   900.  0.1884E-06    1     1.0    1.0   320.0    0.00     90.
  1000.  0.1760E-06    1     1.0    1.0   320.0    0.00     90.
  1100.  0.1664E-06    1     1.0    1.0   320.0    0.00     90.
  1200.  0.1577E-06    1     1.0    1.0   320.0    0.00     90.
  1300.  0.1497E-06    1     1.0    1.0   320.0    0.00     90.
  1400.  0.1425E-06    1     1.0    1.0   320.0    0.00     90.
  1500.  0.1358E-06    1     1.0    1.0   320.0    0.00     90.
  1600.  0.1297E-06    1     1.0    1.0   320.0    0.00     90.
  1700.  0.1241E-06    1     1.0    1.0   320.0    0.00     90.
  1800.  0.1189E-06    1     1.0    1.0   320.0    0.00     90.
```

```
  1900.  0.1142E-06    1     1.0    1.0   320.0    0.00     90.
  2000.  0.1098E-06    1     1.0    1.0   320.0    0.00     90.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   127.  0.5440E-05    1     1.0    1.0   320.0    0.00     90.

*********************************
*** SCREEN DISCRETE DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ---------  ----  -----  -----  ------  ------  -------
   600.  0.3824E-06    1     1.0    1.0   320.0    0.00     90.

     ************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.5440E-05      127.        0.


************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE               =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)         =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)       =       1.5000
   URBAN/RURAL OPTION        =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =      90.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  2 ONLY ***

*********************************
*** SCREEN AUTOMATED DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ---------  ----  -----  -----  ------  ------  -------
    10.  0.5369E-05    2     1.0    1.0   320.0    0.00     90.
   100.  0.6500E-05    2     1.0    1.0   320.0    0.00     90.
   200.  0.3379E-05    2     1.0    1.0   320.0    0.00     90.
   300.  0.2105E-05    2     1.0    1.0   320.0    0.00     90.
```





```
   400.  0.1534E-05    2     1.0    1.0   320.0    0.00     90.
   500.  0.1194E-05    2     1.0    1.0   320.0    0.00     90.
   600.  0.9606E-06    2     1.0    1.0   320.0    0.00     90.
   700.  0.7932E-06    2     1.0    1.0   320.0    0.00     90.
   800.  0.6659E-06    2     1.0    1.0   320.0    0.00     90.
   900.  0.5659E-06    2     1.0    1.0   320.0    0.00     90.
  1000.  0.4858E-06    2     1.0    1.0   320.0    0.00     90.
  1100.  0.4206E-06    2     1.0    1.0   320.0    0.00     90.
  1200.  0.3671E-06    2     1.0    1.0   320.0    0.00     90.
  1300.  0.3228E-06    2     1.0    1.0   320.0    0.00     90.
  1400.  0.2858E-06    2     1.0    1.0   320.0    0.00     90.
  1500.  0.2548E-06    2     1.0    1.0   320.0    0.00     90.
  1600.  0.2289E-06    2     1.0    1.0   320.0    0.00     90.
  1700.  0.2070E-06    2     1.0    1.0   320.0    0.00     90.
  1800.  0.1888E-06    2     1.0    1.0   320.0    0.00     90.
  1900.  0.1736E-06    2     1.0    1.0   320.0    0.00     90.
  2000.  0.1609E-06    2     1.0    1.0   320.0    0.00     90.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   129.  0.6683E-05    2     1.0    1.0   320.0    0.00     90.

*********************************
*** SCREEN DISCRETE DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ---------  ----  -----  -----  ------  ------  -------
   600.  0.9606E-06    2     1.0    1.0   320.0    0.00     90.

     ************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.6683E-05      129.        0.


************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE               =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)         =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)       =       1.5000
   URBAN/RURAL OPTION        =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =      90.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.
```

*** STABILITY CLASS  3 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.6318E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 100. | 0.8049E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 200. | 0.4846E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 300. | 0.3099E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 400. | 0.2327E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 500. | 0.1878E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 600. | 0.1580E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 700. | 0.1366E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 800. | 0.1203E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 900. | 0.1072E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1000. | 0.9629E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1100. | 0.8704E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1200. | 0.7904E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1300. | 0.7204E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1400. | 0.6588E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1500. | 0.6042E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1600. | 0.5558E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1700. | 0.5126E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1800. | 0.4740E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1900. | 0.4393E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 2000. | 0.4083E-06 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 129. | 0.8547E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 600. | 0.1580E-05 | 3 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 0.8547E-05 | 129. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:





| | | |
|---|---|---|
| SOURCE TYPE | = | AREA |
| EMISSION RATE (G/(S-M**2)) | = | 0.300000E-12 |
| SOURCE HEIGHT (M) | = | 0.0000 |
| LENGTH OF LARGER SIDE (M) | = | 480.0000 |
| LENGTH OF SMALLER SIDE (M) | = | 250.0000 |
| RECEPTOR HEIGHT (M) | = | 1.5000 |
| URBAN/RURAL OPTION | = | RURAL |

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS =      90.0000

BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  4 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.8264E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 100. | 0.1068E-04 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 200. | 0.7776E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 300. | 0.5177E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 400. | 0.3997E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 500. | 0.3310E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 600. | 0.2844E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 700. | 0.2504E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 800. | 0.2244E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 900. | 0.2038E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1000. | 0.1878E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1100. | 0.1754E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1200. | 0.1655E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1300. | 0.1567E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1400. | 0.1488E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1500. | 0.1415E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1600. | 0.1348E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1700. | 0.1286E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1800. | 0.1227E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 1900. | 0.1172E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |
| 2000. | 0.1121E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 135. | 0.1154E-04 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 600. | 0.2844E-05 | 4 | 1.0 | 1.0 | 320.0 | 0.00 | 90. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| SIMPLE TERRAIN | 0.1154E-04 | 135. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = AREA
EMISSION RATE (G/(S-M**2)) = 0.300000E-12
SOURCE HEIGHT (M) = 0.0000
LENGTH OF LARGER SIDE (M) = 480.0000
LENGTH OF SMALLER SIDE (M) = 250.0000
RECEPTOR HEIGHT (M) = 1.5000
URBAN/RURAL OPTION = RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS = 90.0000

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** STABILITY CLASS 5 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.8782E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 100. | 0.1251E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 200. | 0.1026E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 300. | 0.7108E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 400. | 0.5602E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 500. | 0.4707E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 600. | 0.4090E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 700. | 0.3634E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 800. | 0.3282E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 900. | 0.3001E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1000. | 0.2780E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1100. | 0.2606E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1200. | 0.2466E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1300. | 0.2344E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1400. | 0.2236E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1500. | 0.2139E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1600. | 0.2052E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1700. | 0.1972E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1800. | 0.1898E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1900. | 0.1829E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 2000. | 0.1766E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 136. | 0.1371E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

**********
*** SCREEN DISCRETE DISTANCES ***





**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 600. | 0.4090E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 0.1371E-04 | 136. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

.C:\CValles

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = AREA
EMISSION RATE (G/(S-M**2)) = 0.300000E-12
SOURCE HEIGHT (M) = 0.0000
LENGTH OF LARGER SIDE (M) = 480.0000
LENGTH OF SMALLER SIDE (M) = 250.0000
RECEPTOR HEIGHT (M) = 1.5000
URBAN/RURAL OPTION = RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS = 90.0000

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** STABILITY CLASS 6 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.9493E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 100. | 0.1472E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 200. | 0.1466E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 300. | 0.1064E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 400. | 0.8477E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 500. | 0.7112E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 600. | 0.6165E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 700. | 0.5484E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 800. | 0.4981E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 900. | 0.4596E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1000. | 0.4283E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1100. | 0.4026E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1200. | 0.3811E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1300. | 0.3624E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1400. | 0.3459E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1500. | 0.3311E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1600. | 0.3179E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1700. | 0.3060E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1800. | 0.2952E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 1900. | 0.2853E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |
| 2000. | 0.2765E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 150. | 0.1694E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 600. | 0.6165E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 90. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 0.1694E-04 | 150. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

```
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =     135.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.1269E-04    6     1.0    1.0 10000.0    0.00    135.
   100.  0.1726E-04    6     1.0    1.0 10000.0    0.00    135.
   200.  0.2096E-04    6     1.0    1.0 10000.0    0.00    135.
   300.  0.1568E-04    6     1.0    1.0 10000.0    0.00    135.
   400.  0.1226E-04    6     1.0    1.0 10000.0    0.00    135.
   500.  0.1020E-04    6     1.0    1.0 10000.0    0.00    135.
   600.  0.8813E-05    6     1.0    1.0 10000.0    0.00    135.
   700.  0.7821E-05    6     1.0    1.0 10000.0    0.00    135.
   800.  0.7083E-05    6     1.0    1.0 10000.0    0.00    135.
   900.  0.6518E-05    6     1.0    1.0 10000.0    0.00    135.
  1000.  0.6067E-05    6     1.0    1.0 10000.0    0.00    135.
  1100.  0.5692E-05    6     1.0    1.0 10000.0    0.00    135.
  1200.  0.5375E-05    6     1.0    1.0 10000.0    0.00    135.
  1300.  0.5099E-05    6     1.0    1.0 10000.0    0.00    135.
  1400.  0.4853E-05    6     1.0    1.0 10000.0    0.00    135.
  1500.  0.4631E-05    6     1.0    1.0 10000.0    0.00    135.
  1600.  0.4430E-05    6     1.0    1.0 10000.0    0.00    135.
  1700.  0.4246E-05    6     1.0    1.0 10000.0    0.00    135.
  1800.  0.4076E-05    6     1.0    1.0 10000.0    0.00    135.
  1900.  0.3920E-05    6     1.0    1.0 10000.0    0.00    135.
  2000.  0.3779E-05    6     1.0    1.0 10000.0    0.00    135.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   199.  0.2096E-04    6     1.0    1.0 10000.0    0.00    135.

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    70.  0.1654E-04    6     1.0    1.0 10000.0    0.00    135.
```





```
     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.2096E-04      199.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =     135.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  1 ONLY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.5007E-05    1     1.0    1.0   320.0    0.00    135.
   100.  0.5511E-05    1     1.0    1.0   320.0    0.00    135.
   200.  0.4326E-05    1     1.0    1.0   320.0    0.00    135.
   300.  0.1963E-05    1     1.0    1.0   320.0    0.00    135.
   400.  0.1195E-05    1     1.0    1.0   320.0    0.00    135.
   500.  0.7591E-06    1     1.0    1.0   320.0    0.00    135.
   600.  0.4908E-06    1     1.0    1.0   320.0    0.00    135.
   700.  0.3341E-06    1     1.0    1.0   320.0    0.00    135.
   800.  0.2510E-06    1     1.0    1.0   320.0    0.00    135.
   900.  0.2110E-06    1     1.0    1.0   320.0    0.00    135.
  1000.  0.1910E-06    1     1.0    1.0   320.0    0.00    135.
  1100.  0.1779E-06    1     1.0    1.0   320.0    0.00    135.
  1200.  0.1671E-06    1     1.0    1.0   320.0    0.00    135.
  1300.  0.1575E-06    1     1.0    1.0   320.0    0.00    135.
  1400.  0.1490E-06    1     1.0    1.0   320.0    0.00    135.
  1500.  0.1413E-06    1     1.0    1.0   320.0    0.00    135.
  1600.  0.1344E-06    1     1.0    1.0   320.0    0.00    135.
  1700.  0.1282E-06    1     1.0    1.0   320.0    0.00    135.
  1800.  0.1225E-06    1     1.0    1.0   320.0    0.00    135.
  1900.  0.1173E-06    1     1.0    1.0   320.0    0.00    135.
```

```
  2000.  0.1125E-06    1     1.0    1.0   320.0    0.00    135.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   178.  0.5988E-05    1     1.0    1.0   320.0    0.00    135.

*********************************
*** SCREEN DISCRETE DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    70.  0.5473E-05    1     1.0    1.0   320.0    0.00    135.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.5988E-05      178.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =          AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =     135.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  2 ONLY ***

*********************************
*** SCREEN AUTOMATED DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.6041E-05    2     1.0    1.0   320.0    0.00    135.
   100.  0.7032E-05    2     1.0    1.0   320.0    0.00    135.
   200.  0.5979E-05    2     1.0    1.0   320.0    0.00    135.
   300.  0.3092E-05    2     1.0    1.0   320.0    0.00    135.
   400.  0.2141E-05    2     1.0    1.0   320.0    0.00    135.
```





```
   500.  0.1608E-05    2     1.0    1.0   320.0    0.00    135.
   600.  0.1248E-05    2     1.0    1.0   320.0    0.00    135.
   700.  0.9921E-06    2     1.0    1.0   320.0    0.00    135.
   800.  0.8057E-06    2     1.0    1.0   320.0    0.00    135.
   900.  0.6660E-06    2     1.0    1.0   320.0    0.00    135.
  1000.  0.5587E-06    2     1.0    1.0   320.0    0.00    135.
  1100.  0.4749E-06    2     1.0    1.0   320.0    0.00    135.
  1200.  0.4082E-06    2     1.0    1.0   320.0    0.00    135.
  1300.  0.3545E-06    2     1.0    1.0   320.0    0.00    135.
  1400.  0.3106E-06    2     1.0    1.0   320.0    0.00    135.
  1500.  0.2746E-06    2     1.0    1.0   320.0    0.00    135.
  1600.  0.2447E-06    2     1.0    1.0   320.0    0.00    135.
  1700.  0.2201E-06    2     1.0    1.0   320.0    0.00    135.
  1800.  0.1996E-06    2     1.0    1.0   320.0    0.00    135.
  1900.  0.1826E-06    2     1.0    1.0   320.0    0.00    135.
  2000.  0.1685E-06    2     1.0    1.0   320.0    0.00    135.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   159.  0.7512E-05    2     1.0    1.0   320.0    0.00    135.

*********************************
*** SCREEN DISCRETE DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    70.  0.6743E-05    2     1.0    1.0   320.0    0.00    135.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.7512E-05      159.        0.


**************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =          AREA
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)          =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)        =       1.5000
   URBAN/RURAL OPTION         =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =     135.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  3 ONLY ***
```

```
**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.7431E-05    3     1.0    1.0   320.0    0.00    135.
   100.  0.8911E-05    3     1.0    1.0   320.0    0.00    135.
   200.  0.8463E-05    3     1.0    1.0   320.0    0.00    135.
   300.  0.4630E-05    3     1.0    1.0   320.0    0.00    135.
   400.  0.3346E-05    3     1.0    1.0   320.0    0.00    135.
   500.  0.2640E-05    3     1.0    1.0   320.0    0.00    135.
   600.  0.2177E-05    3     1.0    1.0   320.0    0.00    135.
   700.  0.1840E-05    3     1.0    1.0   320.0    0.00    135.
   800.  0.1581E-05    3     1.0    1.0   320.0    0.00    135.
   900.  0.1375E-05    3     1.0    1.0   320.0    0.00    135.
  1000.  0.1206E-05    3     1.0    1.0   320.0    0.00    135.
  1100.  0.1066E-05    3     1.0    1.0   320.0    0.00    135.
  1200.  0.9489E-06    3     1.0    1.0   320.0    0.00    135.
  1300.  0.8496E-06    3     1.0    1.0   320.0    0.00    135.
  1400.  0.7648E-06    3     1.0    1.0   320.0    0.00    135.
  1500.  0.6918E-06    3     1.0    1.0   320.0    0.00    135.
  1600.  0.6286E-06    3     1.0    1.0   320.0    0.00    135.
  1700.  0.5736E-06    3     1.0    1.0   320.0    0.00    135.
  1800.  0.5253E-06    3     1.0    1.0   320.0    0.00    135.
  1900.  0.4829E-06    3     1.0    1.0   320.0    0.00    135.
  2000.  0.4455E-06    3     1.0    1.0   320.0    0.00    135.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   184.  0.9635E-05    3     1.0    1.0   320.0    0.00    135.

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    70.  0.8358E-05    3     1.0    1.0   320.0    0.00    135.

     ************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN     0.9635E-05      184.        0.


************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
************************************************


 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =         AREA
```





```
   EMISSION RATE (G/(S-M**2))  =     0.300000E-12
   SOURCE HEIGHT (M)           =       0.0000
   LENGTH OF LARGER SIDE (M)   =     480.0000
   LENGTH OF SMALLER SIDE (M)  =     250.0000
   RECEPTOR HEIGHT (M)         =       1.5000
   URBAN/RURAL OPTION          =        RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

   ANGLE RELATIVE TO LONG AXIS =     135.0000


BUOY. FLUX =    0.000 M**4/S**3;  MOM. FLUX =    0.000 M**4/S**2.

*** STABILITY CLASS  4 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    10.  0.1001E-04    4     1.0    1.0   320.0    0.00    135.
   100.  0.1193E-04    4     1.0    1.0   320.0    0.00    135.
   200.  0.1280E-04    4     1.0    1.0   320.0    0.00    135.
   300.  0.7750E-05    4     1.0    1.0   320.0    0.00    135.
   400.  0.5802E-05    4     1.0    1.0   320.0    0.00    135.
   500.  0.4731E-05    4     1.0    1.0   320.0    0.00    135.
   600.  0.4027E-05    4     1.0    1.0   320.0    0.00    135.
   700.  0.3516E-05    4     1.0    1.0   320.0    0.00    135.
   800.  0.3119E-05    4     1.0    1.0   320.0    0.00    135.
   900.  0.2804E-05    4     1.0    1.0   320.0    0.00    135.
  1000.  0.2552E-05    4     1.0    1.0   320.0    0.00    135.
  1100.  0.2348E-05    4     1.0    1.0   320.0    0.00    135.
  1200.  0.2178E-05    4     1.0    1.0   320.0    0.00    135.
  1300.  0.2030E-05    4     1.0    1.0   320.0    0.00    135.
  1400.  0.1898E-05    4     1.0    1.0   320.0    0.00    135.
  1500.  0.1779E-05    4     1.0    1.0   320.0    0.00    135.
  1600.  0.1670E-05    4     1.0    1.0   320.0    0.00    135.
  1700.  0.1571E-05    4     1.0    1.0   320.0    0.00    135.
  1800.  0.1481E-05    4     1.0    1.0   320.0    0.00    135.
  1900.  0.1398E-05    4     1.0    1.0   320.0    0.00    135.
  2000.  0.1321E-05    4     1.0    1.0   320.0    0.00    135.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
   188.  0.1344E-04    4     1.0    1.0   320.0    0.00    135.

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

  DIST     CONC             U10M   USTK  MIX HT   PLUME  MAX DIR
   (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)   HT (M)   (DEG)
-------  ----------  ----  -----  -----  ------  ------  -------
    70.  0.1170E-04    4     1.0    1.0   320.0    0.00    135.

     ************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)    HT (M)
--------------    -----------   -------   -------
```

| | | | | |
|---|---|---|---|---|
| SIMPLE TERRAIN | 0.1344E-04 | 188. | 0. | |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = AREA
EMISSION RATE (G/(S-M**2)) = 0.300000E-12
SOURCE HEIGHT (M) = 0.0000
LENGTH OF LARGER SIDE (M) = 480.0000
LENGTH OF SMALLER SIDE (M) = 250.0000
RECEPTOR HEIGHT (M) = 1.5000
URBAN/RURAL OPTION = RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS = 135.0000

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** STABILITY CLASS 5 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.1111E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 100. | 0.1455E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 200. | 0.1606E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 300. | 0.1057E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 400. | 0.8125E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 500. | 0.6746E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 600. | 0.5827E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 700. | 0.5154E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 800. | 0.4635E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 900. | 0.4221E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1000. | 0.3889E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1100. | 0.3618E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1200. | 0.3392E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1300. | 0.3196E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1400. | 0.3020E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1500. | 0.2859E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1600. | 0.2712E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1700. | 0.2578E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1800. | 0.2453E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1900. | 0.2339E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 2000. | 0.2233E-05 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 189. | 0.1643E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

**********
*** SCREEN DISCRETE DISTANCES ***
**********





*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 70. | 0.1352E-04 | 5 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 0.1643E-04 | 189. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

.C:\P.Tecnologico

SIMPLE TERRAIN INPUTS:
SOURCE TYPE = AREA
EMISSION RATE (G/(S-M**2)) = 0.300000E-12
SOURCE HEIGHT (M) = 0.0000
LENGTH OF LARGER SIDE (M) = 480.0000
LENGTH OF SMALLER SIDE (M) = 250.0000
RECEPTOR HEIGHT (M) = 1.5000
URBAN/RURAL OPTION = RURAL
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS = 135.0000

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** STABILITY CLASS 6 ONLY ***

**********
*** SCREEN AUTOMATED DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 10. | 0.1269E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 100. | 0.1726E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 200. | 0.2096E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 300. | 0.1568E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 400. | 0.1226E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 500. | 0.1020E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 600. | 0.8813E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 700. | 0.7821E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 800. | 0.7083E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 900. | 0.6518E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1000. | 0.6067E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1100. | 0.5692E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1200. | 0.5375E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1300. | 0.5099E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1400. | 0.4853E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1500. | 0.4631E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1600. | 0.4430E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1700. | 0.4246E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1800. | 0.4076E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 1900. | 0.3920E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |
| 2000. | 0.3779E-05 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 199. | 0.2096E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

**********
*** SCREEN DISCRETE DISTANCES ***
**********

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

| DIST (M) | CONC (UG/M**3) | STAB | U10M (M/S) | USTK (M/S) | MIX HT (M) | PLUME HT (M) | MAX DIR (DEG) |
|---|---|---|---|---|---|---|---|
| 70. | 0.1654E-04 | 6 | 1.0 | 1.0 | 10000.0 | 0.00 | 135. |

**********
*** SUMMARY OF SCREEN MODEL RESULTS ***
**********

| CALCULATION PROCEDURE | MAX CONC (UG/M**3) | DIST TO MAX (M) | TERRAIN HT (M) |
|---|---|---|---|
| SIMPLE TERRAIN | 0.2096E-04 | 199. | 0. |

**********
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
**********

# Annexe 6

# Figures

426050
4594150

N.M.

A

B

C

ST 05

ST 06

PC1 02 01
PC1 02 02
PC1 02 03
PC1 02 04

PC1 01 01
PC1 01 02
PC1 01 03

PC1 02 05
PC1 02 06
PC1 02 07

427150
4593500

## LLEGENDA

- Material residual no inerts i inerts
- Material residual i reompliment de terres
- Àrea de segellament

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ | PLANOL Nº | 1 de 1 |
|---|---|---|---|---|---|---|
| DATA | Agost-08 | Agost-08 | | | Nº ENCÀRREC | 13.506 |
| NOM | J.M.O. | G.M.G. | | | | |

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions, Definició de la Solució Adoptada a nivell d'Avantprojecte.

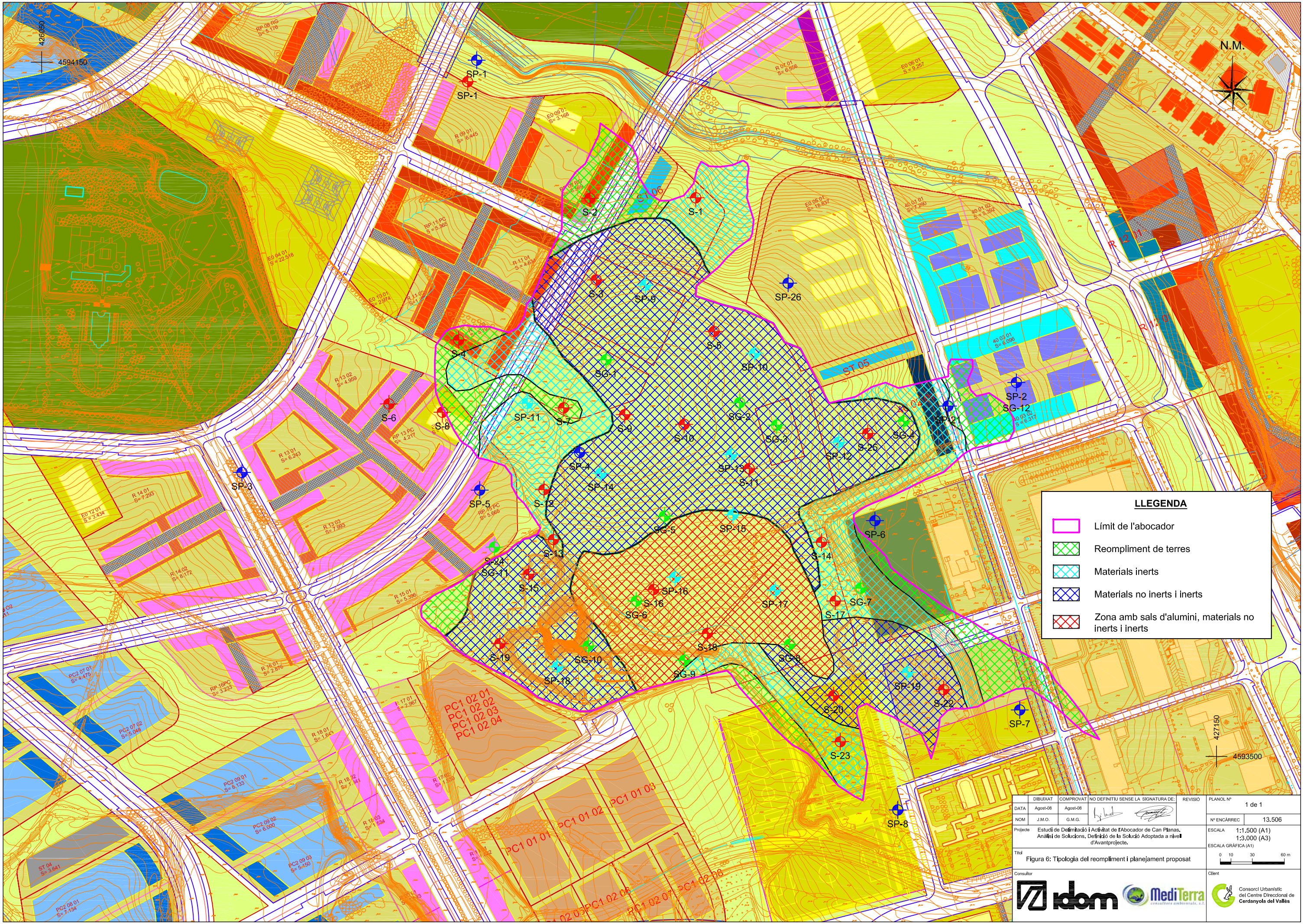
Títol: Figura 7: Materials

ESCALA 1:1.500 (A1)
1:3.000 (A3)

ESCALA GRÁFICA (A1)
0 10 30 60 m

Consultor: idom · MediTerra consultors ambientals, s.l.

Client: Consorci Urbanístic del Centre Direccional de **Cerdanyola del Vallès**




**LLEGENDA**

- Límit de l'abocador
- Reompliment de terres
- Materials inerts
- Materials no inerts i inerts
- Zona amb sals d'alumini, materials no inerts i inerts

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ | PLANOL Nº |
|---|---|---|---|---|---|
| DATA | Agost-08 | Agost-08 | | | 1 de 1 |
| NOM | J.M.O. | G.M.G. | | | Nº ENCÀRREC 13.506 |

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.

Títol: Figura 6: Tipologia del reompliment i planejament proposat

ESCALA 1:1.500 (A1) 1:3.000 (A3)

ESCALA GRÀFICA (A1) 0 10 30 60 m

Consultor: idom, MediTerra consultors ambientals, s.l.

Client: Consorci Urbanístic del Centre D'reccional de Cerdanyola del Vallès

426050
4594150

N.M.

SECTORS

| | |
|---|---|
| 1 | Residencial |
| 2 | Residencial |
| 3 | Equipaments |
| 4 | Residencial |
| 5 | Comercial i Serveis Tècnics |
| 6 | Residencial |
| 7 | Sistemes Tècnics Generals amb transformació a verd i Residencial |
| 8 | Parc de la Ciència i de la Tecnologia i Serveis Tècnics |
| 9 | Equipaments, Parcs interiors i Sistemes Tècnics Generals amb transformació a verd |

ESCENARIS RISCOS CONTACTE DIRECTE

Contacte directe SÒL

427150
4593500

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ |
|---|---|---|---|---|
| DATA | Agost-08 | Agost-08 | | |
| NOM | J.M.O. | G.M.G. | | |

PLANOL Nº 1 de 1

Nº ENCÀRREC 13.506

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.

ESCALA 1:1.500 (A1) 1:3.000 (A3)

ESCALA GRÀFICA (A1) 0 10 30 60 m

Títol: Figura 5: Risc contacte dermic

Consultor: idom, MediTerra consultors ambientals, s.l.

Client: Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès

426050
4594150

N.M.

**SECTORS**

| | |
|---|---|
| 1 | Residencial |
| 2 | Residencial |
| 3 | Equipaments |
| 4 | Residencial |
| 5 | Comercial i Serveis Tècnics |
| 6 | Residencial |
| 7 | Sistemes Tècnics Generals amb transformació a verd i Residencial |
| 8 | Parc de la Ciència i de la Tecnologia i Serveis Tècnics |
| 9 | Equipaments, Parcs interiors i Sistemes Tècnics Generals amb transformació a verd |

**ESCENARIS RISCOS INHALACIÓ**

- Inhalació Soil-Gas
- Inhalació Sòl INDOOR
- Inhalació Sòl OUTDOOR

427150
4593500

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ | PLANOL Nº | 1 de 1 |
|---|---|---|---|---|---|---|
| DATA | Agost-08 | Agost-08 | | | Nº ENCÀRREC | 13.506 |
| NOM | J.M.O. | G.M.G. | | | | |

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.

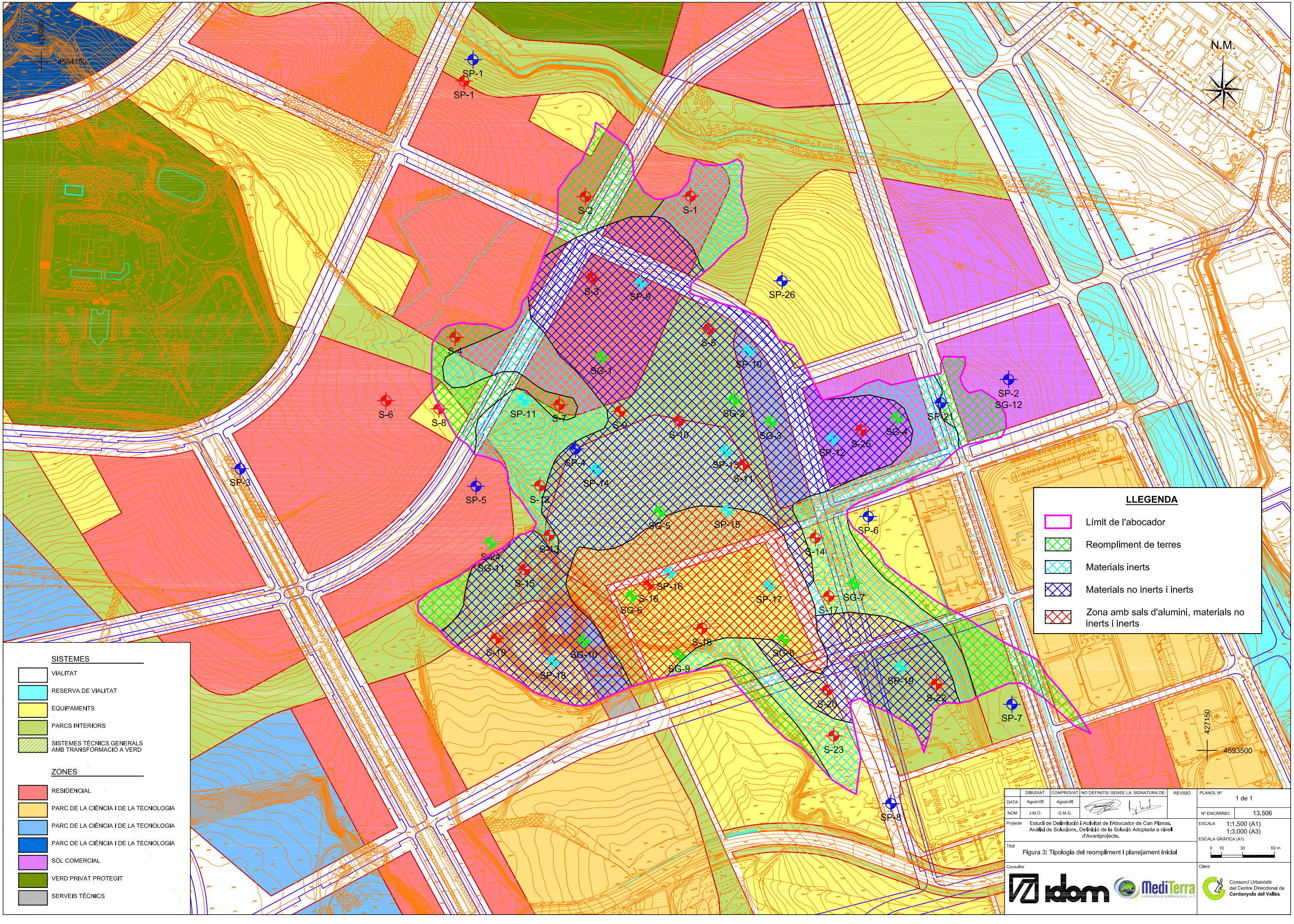
Títol: Figura 4: Risc inhalació

ESCALA 1:1.500 (A1) 1:3.000 (A3)

ESCALA GRÀFICA (A1) 0 10 30 60 m

Consultor: idom, MediTerra consultora ambiental, s.l.

Client: Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès



N.M.
426050
4594150
427150
4593500
SP-1
SP-1
S-2
S-1
S-3
SP-9
SP-26
S-4
S-5
SG-1
SP-10
SP-2
SG-12
S-6
S-8
SP-11
S-7
S-9
S-10
SG-2
SG-3
SP-21
SG-4
S-25
SP-12
SP-4
SP-13
S-11
SP-3
SP-5
S-12
SP-14
SG-5
SP-15
SP-6
S-13
S-14
S-24
SG-11
S-15
SP-16
S-16
SG-6
SP-17
SG-7
S-17
S-18
S-19
SG-10
SG-8
SP-18
SG-9
SP-19
S-22
S-20
SP-7
S-23
SP-8
LLEGENDA
Límit de l'abocador
Reompliment de terres
Materials inerts
Materials no inerts i inerts
Zona amb sals d'alumini, materials no inerts i inerts
SISTEMES
VIALITAT
RESERVA DE VIALITAT
EQUIPAMENTS
PARCS INTERIORS
SISTEMES TÈCNICS GENERALS AMB TRANSFORMACIÓ A VERD
ZONES
RESIDENCIAL
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
SÒL COMERCIAL
VERD PRIVAT PROTEGIT
SERVEIS TÈCNICS
DIBUIXAT
COMPROVAT
NO DEFINITIU SENSE LA SIGNATURA DE:
REVISIÓ
DATA
Agost-08
Agost-08
NOM
J.M.O.
G.M.G.
PLANOL Nº
1 de 1
Nº ENCÀRREC
13.506
Projecte
Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.
ESCALA
1:1.500 (A1)
1:3.000 (A3)
ESCALA GRÀFICA (A1)
0 10 30 60 m
Títol
Figura 3: Tipologia del reompliment i planejament inicial
Consultor
idom
MediTerra
consultors ambientals, s.l.
Client
Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès

426050
4594150

N.M.

SP-1
SP-7
SM
S-2
SP-1
S-3
SP-9
SP-26
GM
S-4
S-5
SG-1
SP-10
S-6
S-8
SP-11
S-7
S-9
S-10
SG-2
SG-3
SP-2
SG-12
SP-21
SG-4
S-25
SP-12
SP-4
SP-14
SP-13
S-11
ML
SP-3
SP-5
S-12
SG-5
SP-15
SP-6
S-24
SG-11
S-13
S-14
S-15
SP-16
S-16
SG-6
SM
SP-17
SG-7
S-17
S-18
SG-8
S-19
SG-10
SG-9
SP-18
SP-19
S-22
S-20
SP-7
S-23
SP-8
ML

427150
4593500

**LLEGENDA**

- Límit de l'abocador
- Reompliment de terres
- Materials inerts
- Materials no inerts i inerts
- Zona amb sals d'alumini, materials no inerts i inerts

**TIPOLOGIA RESIDU**

**SM** Arenes llimoses
**ML** Llims
**GM** Graves llimoses

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ | PLANOL Nº |
|---|---|---|---|---|---|
| DATA | Agost-08 | Agost-08 | | | 1 de 1 |
| NOM | J.M.O. | G.M.G. | | | Nº ENCÀRREC 13.506 |

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.

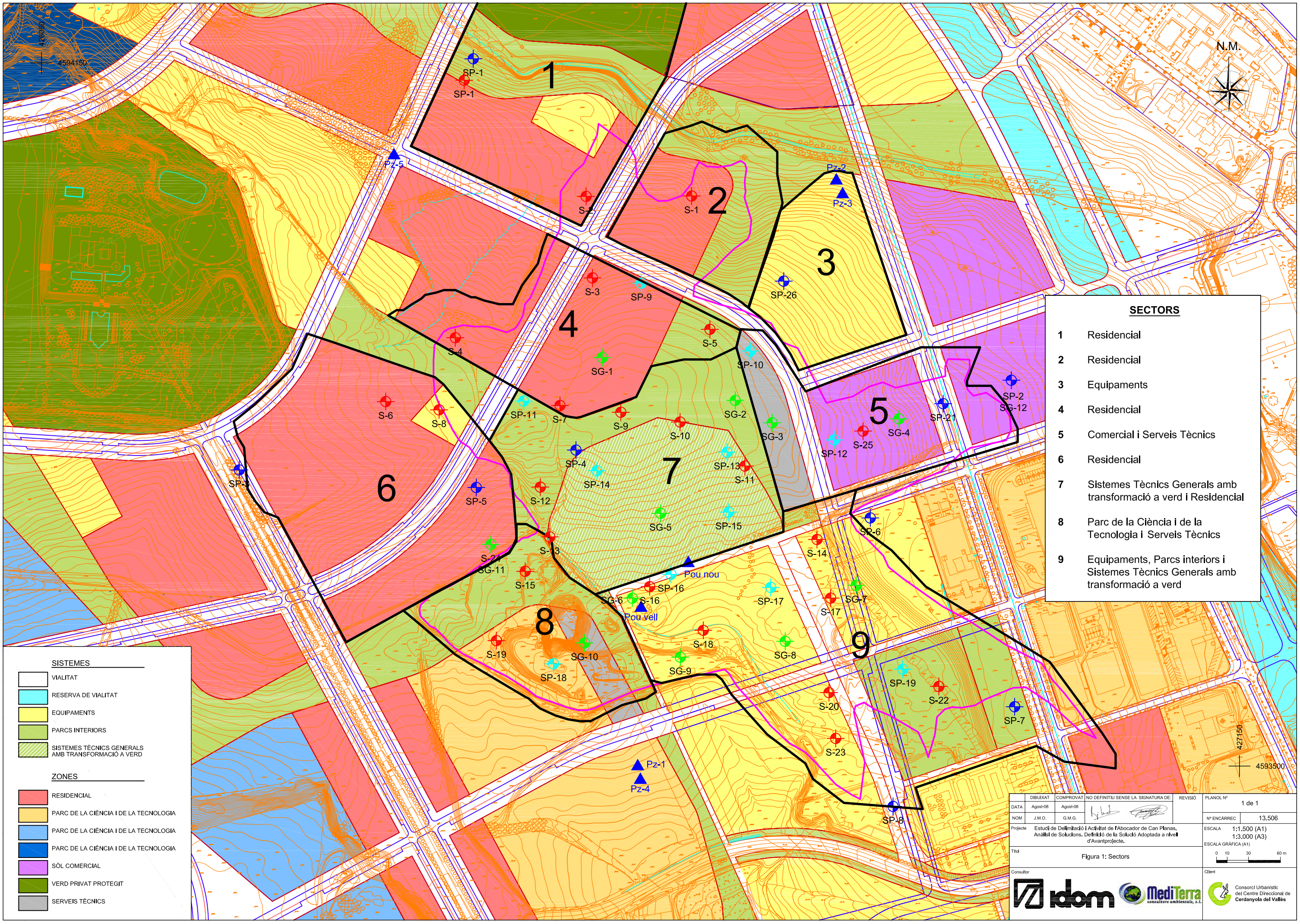
ESCALA 1:1.500 (A1) 1:3.000 (A3)

ESCALA GRÀFICA (A1) 0 10 30 60 m

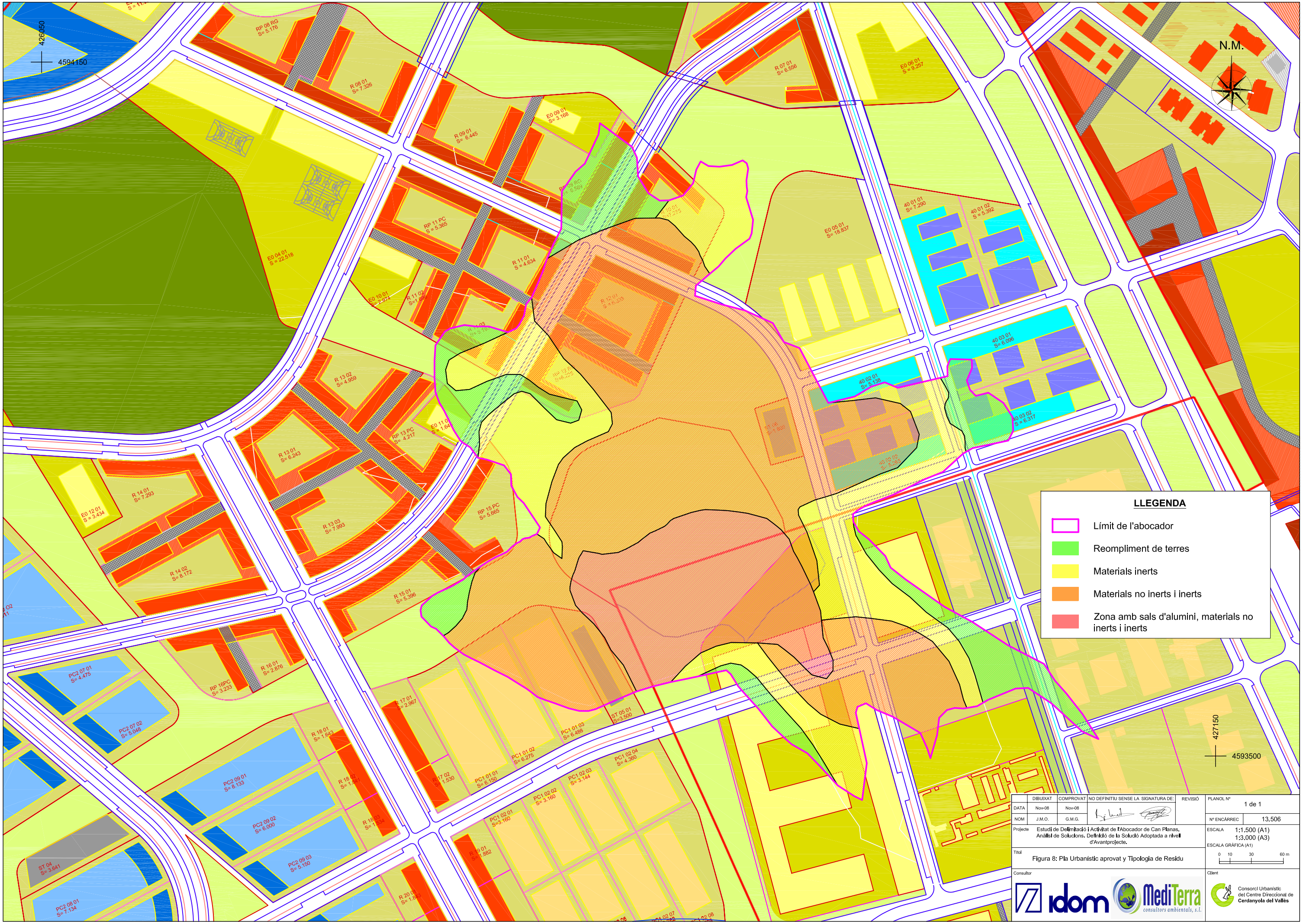
Títol: Figura 2: Distribució de materials

Consultor: idom, MediTerra consultors ambientals, s.l.

Client: Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès



N.M.
SECTORS
1 Residencial
2 Residencial
3 Equipaments
4 Residencial
5 Comercial i Serveis Tècnics
6 Residencial
7 Sistemes Tècnics Generals amb transformació a verd i Residencial
8 Parc de la Ciència i de la Tecnologia i Serveis Tècnics
9 Equipaments, Parcs interiors i Sistemes Tècnics Generals amb transformació a verd
SISTEMES
VIALITAT
RESERVA DE VIALITAT
EQUIPAMENTS
PARCS INTERIORS
SISTEMES TÈCNICS GENERALS AMB TRANSFORMACIÓ A VERD
ZONES
RESIDENCIAL
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
PARC DE LA CIÈNCIA I DE LA TECNOLOGIA
SÒL COMERCIAL
VERD PRIVAT PROTEGIT
SERVEIS TÈCNICS
Pou nou
Pou vell
Pz-1
Pz-2
Pz-3
Pz-4
Pz-5
4594150
4593500
427150
DIBUIXAT
COMPROVAT
NO DEFINITIU SENSE LA SIGNATURA DE:
REVISIÓ
DATA Agost-08 Agost-08
NOM J.M.O. G.M.G.
PLANOL Nº 1 de 1
Nº ENCÀRREC 13.506
Projecte Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.
ESCALA 1:1.500 (A1) 1:3.000 (A3)
ESCALA GRÀFICA (A1)
0 10 30 60 m
Títol Figura 1: Sectors
Consultor
idom
MediTerra consultors ambientals, s.l.
Client
Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès




**LLEGENDA**

- Límit de l'abocador
- Reompliment de terres
- Materials inerts
- Materials no inerts i inerts
- Zona amb sals d'alumini, materials no inerts i inerts

| | DIBUIXAT | COMPROVAT | NO DEFINITIU SENSE LA SIGNATURA DE: | REVISIÓ |
|---|---|---|---|---|
| DATA | Nov-08 | Nov-08 | | |
| NOM | J.M.O. | G.M.G. | | |

PLANOL Nº 1 de 1

Nº ENCÀRREC 13.506

Projecte: Estudi de Delimitació i Activitat de l'Abocador de Can Planas. Anàlisi de Solucions. Definició de la Solució Adoptada a nivell d'Avantprojecte.

ESCALA 1:1.500 (A1) 1:3.000 (A3)

ESCALA GRÀFICA (A1) 0 10 30 60 m

Títol: Figura 8: Pla Urbanístic aprovat y Tipologia de Residu

Consultor: idom, MediTerra consultors ambientals, s.l.

Client: Consorci Urbanístic del Centre Direccional de Cerdanyola del Vallès