

RESULTS SHEET

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (µg/kg)	Indoor exposure soil conc., noncarcinogen (µg/kg)	Risk-based Indoor exposure soil conc., (µg/kg)	Soil saturation conc., C _{sat} (µg/kg)	Final Indoor exposure soil conc., (µg/kg)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	3.72E+03	3.72E+03	1.70E+05	3.72E+03	NA	NA

MESSAGE SUMMARY BELOW:
 MESSAGE: The values of C_{source} and C_{building} on the INTERCALCS worksheet are based on unity and do not represent actual values.

END

DATA ENTRY SHEET

SL-SCREEN
Version 3.1; 02/01

Reset to
Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES

X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and Initial soil conc. below)

YES

ENTER
Initial
soil
conc.,
 C_R
($\mu\text{g}/\text{kg}$)

Chemical

91203

Naphthalene

MORE
↓

ENTER Depth below grade to bottom of enclosed space floor, L_f (15 or 200 cm)	ENTER Depth below grade to top of enclosed space floor, L_t (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	250	15	SC	

MORE
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ENTER Vadose zone SCS soil type Loop Soil Parameters	ENTER Vadose zone soil dry bulk density, ρ_d^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, n_w^V (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)	ENTER Average vapor flow rate into bldg. (leave blank to calculate) Q_{soil} (L/m)
SC	1.65	0.385	0.197	0.002	5

MORE
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ENTER Averaging time for carcinogens, AT_c (yrs)	ENTER Averaging time for noncarcinogens, AT_{nc} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Used to calculate risk-based soil concentration
70	30	30	350	1.0E-05	1	

END

RESULTS SHEET

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (µg/kg)	Indoor exposure soil conc., noncarcinogen (µg/kg)	Risk-based Indoor exposure soil conc., (µg/kg)	soil saturation conc., C_{sat} (µg/kg)	Final Indoor exposure soil conc., (µg/kg)
NA	3.73E+03	3.73E+03	1.28E+05	3.73E+03

MESSAGE SUMMARY BELOW:

MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unitv and do not represent actual values.

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

END

SL-SCREEN
Version 3.1; 02/01

Reset to
Defaults

DATA ENTRY SHEET

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES ☒ X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES ☐

ENTER
Chemical
CAS No.
(numbers only,
no dashes)
 C_p
($\mu\text{g}/\text{kg}$)

ENTER
Initial
soil
conc.,
 C_s
($\mu\text{g}/\text{kg}$)

Chemical

Naphthalene

MORE
↓

ENTER Depth below grade to bottom of enclosed space floor, L_f (15 or 200 cm)	ENTER Depth below grade to top of contamination layer, L_t (cm)	ENTER Average soil temperature, T_s ($^{\circ}\text{C}$)	ENTER Vadose zone SCS soil type (used to estimate vadose zone permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	400	15	SC		

MORE
↓

ENTER
Average vapor
flow rate into bldg.
(leave blank to calculate)
 Q_{avg}
(L/m)

5

ENTER Vadose zone SCS soil type Lookup Soil Parameters	ENTER Vadose zone soil dry bulk density, ρ_b (g/cm^3)	ENTER Vadose zone soil total porosity, n (unitless)	ENTER Vadose zone soil water-filled porosity, θ_v (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc} (unitless)
SC	1.63	0.385	0.197	0.002

MORE
↓

ENTER Averaging time for carcinogens, ATc (yrs)	ENTER Averaging time for noncarcinogens, ATnc (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-05	1

END

Used to calculate risk-based
soil concentration.

RESULTS SHEET

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen ($\mu\text{g}/\text{kg}$)	Indoor exposure soil conc., noncarcinogen ($\mu\text{g}/\text{kg}$)	Risk-based Indoor exposure soil conc., ($\mu\text{g}/\text{kg}$)	Soil saturation conc., C_{sat} ($\mu\text{g}/\text{kg}$)	Final Indoor exposure soil conc., ($\mu\text{g}/\text{kg}$)
NA	$5.94\text{E}+03$	$5.94\text{E}+03$	$1.28\text{E}+05$	$5.94\text{E}+03$

MESSAGE SUMMARY BELOW:

MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

END

DATA ENTRY SHEET

SI-SCREEN
version 3.1; 02/01

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "x" in "YES" box)

YES ☒ X

OR

Reset to
Defaults

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "x" in "YES" box and initial soil conc. below)

YES ☐

ENTER	ENTER	ENTER	ENTER	ENTER
Chemical CAS No.	Initial soil conc., C_n	Chemical		
(numbers only, no dashes)	($\mu\text{g}/\text{kg}$)			
91203		Naphthalene		

MORE
↓

ENTER	ENTER	ENTER	ENTER	ENTER
Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	Depth below grade to top of contamination, L_t (cm)	Average soil temperature, T_s ($^{\circ}\text{C}$)	Vadose zone soil type (used to estimate soil vapor permeability)	User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	800	15	SC	

MORE
↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Vadose zone soil type (Lookup Soil Parameters)	Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	Vadose zone soil total porosity, n^v (unitless)	Vadose zone soil water-filled porosity, θ_w^v (cm^3/cm^3)	Vadose zone soil organic carbon fraction, f_{oc}^v (unitless)	Average vapor flow rate into bldg. (leave blank to calculate)	$Q_{v, \text{air}}$ (L/m^2)
SC	1.65	0.385	0.197	0.002		5

MORE
↓

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Averaging time for carcinogens, noncarcinogens, AT_c (yrs)	Averaging time for carcinogens, noncarcinogens, AT_{nc} (yrs)	Exposure duration, ED (yrs)	Exposure frequency, EF (days/yr)	Target risk for carcinogens, TR (unitless)	Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-05	1

used to calculate risk-based soil concentration.

END

RESULTS SHEET

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (µg/kg)	Indoor exposure soil conc., noncarcinogen (µg/kg)	Risk-based Indoor exposure soil conc., (µg/kg)	Soil saturation conc., C _{sat} (µg/kg)	Final Indoor exposure soil conc., (µg/kg)
NA	1.18E+04	1.18E+04	1.28E+05	1.18E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE SUMMARY BELOW:

MESSAGE: The values of C_{source} and C_{building} on the INTERCALC worksheet are based on unity and do not represent actual values.

END