

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 C _{sat} (µg/kg)	Final indoor exposure soil conc., (µg/kg)
3.31E+01	3.31E+02	3.31E+01	4.57E+05	3.31E+01

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 INTERCALCS worksheet are based on unity and do not represent actual values.

END

DATA ENTRY SHEET

SL-SCREEN
Version 3.1; 02/04

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

YES ☒ 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_R	Chemical		
(numbers only, no dashes)	($\mu\text{g/kg}$)			
108883		Toluene		

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_C (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	250	15	SC	

MORE

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Vadose zone SCS soil type (Lockup Soil Parameters)	Vadose zone soil dry bulk density, P_b^A (g/cm^3)	Vadose zone soil total porosity, n^V (unitless)	Vadose zone soil water-filled porosity, n^w (unitless)	Vadose zone soil organic carbon fraction, f_{oc}^y (unitless)	Average vapor flow rate into bldg. (leave blank to calculate)
SC	1.63	0.385	0.197	0.002	C_{soil} (L/m)
					5

MORE

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

MORE

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	2.52E+03	2.52E+03	2.65E+05	2.52E+03

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

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

DATA ENTRY SHEET

SL-SCREEN
Version 3.1; 02/01

Reset to
Defaults

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

YES ☒ 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)	ENTER Initial soil conc., C_0 ($\mu\text{g}/\text{kg}$)	Chemical
100003		Toluene

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

MORE
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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^y (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^y (cm^3/cm^3)	ENTER Vadose zone soil organic carbon fraction, f_{oc}^y (unitless)	ENTER Average vapor flow rate into bldg. (leave blank to calculate) Q_{vbl} (L/m)
SC	1.63	0.305	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)
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 ($\mu\text{g}/\text{kg}$)	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., ($\mu\text{g}/\text{kg}$)	Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	$3.97\text{E}+03$	$3.97\text{E}+03$	$2.65\text{E}+05$	$3.97\text{E}+03$	NA	NA

MESSAGE SUMMARY BELOW.
MESSAGE: The values of Csource and Cbuilding 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

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

YES ☒ OR

Reset to
Defaults

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)	ENTER Initial soil conc., C _i (μg/kg)	Chemical
100803		Toluene

MORE
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ENTER Depth below grade to bottom of enclosed space floor, L _f (15 or 200 cm)	ENTER Depth below grade to top of contamination 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	800	15	SC	

MORE
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ENTER Vadose zone SCS soil type Looking-Sal Parameters	ENTER Vadose zone soil dry bulk density, ρ _d ^s (g/cm ³)	ENTER Vadose zone soil total porosity, n ^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ _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 _{cell} (L/m)
SC	1.63	0.385	0.497	0.002	5

MORE
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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 (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	7.82E+03	7.82E+03	2.65E+05	7.82E+03

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

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