

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	4.60E+03	4.60E+03	1.53E+05	4.60E+03

MESSAGE SUMMARY BELOW:

MESSAGE: The values of C_{source} and Chulding 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; 02/04

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	ENTER	ENTER	ENTER
Chemical CAS No. (numbers only, no dashes)	Initial soil conc., C_0 ($\mu\text{g}/\text{kg}$)	Chemical	
106423		p-Xylene	

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 SCS 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
Average vapor flow rate into bldg. (leave blank to calculate)

ENTER
Average vapor flow rate into bldg. (leave blank to calculate)
Q_{soil} (L/m)
5

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Vadose zone SCS soil type	Vadose zone soil dry bulk density, ρ_b (g/cm^3)	Vadose zone soil total porosity, n_v (unitless)	Vadose zone soil water-filled porosity, θ_w (cm^3/cm^3)	Vadose zone soil organic carbon fraction, f_{oc} (unitless)	Target risk for carcinogens, TR (unitless)	Target hazard quotient for noncarcinogens, THQ (unitless)
SC	1.63	0.385	0.197	0.002		

MORE

ENTER	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)	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	$1.19\text{E}+03$	$1.19\text{E}+03$	$1.70\text{E}+05$	$1.19\text{E}+03$

MESSAGE SUMMARY BELOW:

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

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 ☐ X ☐ OR

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

YES ☐

ENTER	ENTER	ENTER	ENTER
Chemical CAS No.	Initial soil conc., C_0 (mg/kg)	Chemical	
106423		p-Xylene	

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 ($^{\circ}$ C)	Vadose zone SCS soil type (used to estimate soil vapor permeability)	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)

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Vadose zone SCS soil type (Look-up 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, q_v^V (cm^3/cm^3)	Vadose zone soil organic carbon fraction, f_{oc}^V (unitless)	Average Vapor Flow rate into bldg. (L/m^2)
SC	1.63	0.385	0.107	0.002	5

MORE ☐

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Averaging time for carcinogens, noncarcinogens, ATC (hrs)	Averaging time for carcinogens, noncarcinogens, ATC (hrs)	Exposure duration, ED (hrs)	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

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	1.88E+03	1.88E+03	1.70E+05	1.88E+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

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	ENTER	ENTER	ENTER
Chemical CAS No.	Initial soil conc., C_a (ug/kg)	Chemical	
(numbers only, no dashes)			
106423		p-Xylene	

MORE $\downarrow$

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 ($^{\circ}$ C)	Vadose zone SCS soil type used to estimate soil vapor permeability	User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	800	15	SC	

MORE $\downarrow$

ENTER	ENTER	ENTER	ENTER	ENTER	ENTER	ENTER
Vadose zone SCS soil type	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, 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)	
SC	1.63	0.305	0.197	0.002	Q_{soil} (L/m)	5

MORE $\downarrow$

ENTER	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, IR (unitless)	Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-05	1

Used to calculate risk-based soil concentration.

END