

US EPA ARCHIVE DOCUMENT

## DATA ENTRY SHEET

GW-ADV  
Version 3.0; 02/03

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

YES

OR

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

YES

X

<b>ENTER</b> Chemical CAS No. (numbers only, no dashes)		<b>ENTER</b> Initial groundwater conc., $C_w$ ( $\mu\text{g/L}$ )		<b>Chemical</b>								
156605		1.70E+00		trans-1,2-Dichloroethylene								
<b>ENTER</b> Average soil/ groundwater temperature, $T_s$ ( $^{\circ}\text{C}$ )	<b>ENTER</b> Depth below grade to bottom of enclosed space floor, $L_F$ (cm)	<b>ENTER</b> Depth below grade to water table, $L_{WT}$ (cm)	<b>ENTER</b> Totals must add up to value of $L_{WT}$ (cell G28)  Thickness of soil stratum A, $h_A$ (cm)			<b>ENTER</b> Thickness of soil stratum B, (Enter value or 0) $h_B$ (cm)	<b>ENTER</b> Thickness of soil stratum C, (Enter value or 0) $h_C$ (cm)	<b>ENTER</b> Soil stratum directly above water table, (Enter A, B, or C)	<b>ENTER</b> SCS soil type directly above water table	<b>ENTER</b> Soil stratum A SCS soil type (used to estimate soil vapor permeability)	<b>OR</b>	<b>ENTER</b> User-defined stratum A soil vapor permeability, $k_v$ ( $\text{cm}^2$ )
8.33	200	1417.32	640.08	548.64	228.6			C	S	L		

MORE  
↓

<b>ENTER</b> Stratum A SCS soil type  Lookup Soil Parameters	<b>ENTER</b> Stratum A soil dry bulk density, $\rho_b^A$ ( $\text{g/cm}^3$ )	<b>ENTER</b> Stratum A soil total porosity, $n^A$ (unitless)	<b>ENTER</b> Stratum A soil water-filled porosity, $\theta_w^A$ ( $\text{cm}^3/\text{cm}^3$ )	<b>ENTER</b> Stratum B SCS soil type  Lookup Soil Parameters	<b>ENTER</b> Stratum B soil dry bulk density, $\rho_b^B$ ( $\text{g/cm}^3$ )	<b>ENTER</b> Stratum B soil total porosity, $n^B$ (unitless)	<b>ENTER</b> Stratum B soil water-filled porosity, $\theta_w^B$ ( $\text{cm}^3/\text{cm}^3$ )	<b>ENTER</b> Stratum C SCS soil type  Lookup Soil Parameters	<b>ENTER</b> Stratum C soil dry bulk density, $\rho_b^C$ ( $\text{g/cm}^3$ )	<b>ENTER</b> Stratum C soil total porosity, $n^C$ (unitless)	<b>ENTER</b> Stratum C soil water-filled porosity, $\theta_w^C$ ( $\text{cm}^3/\text{cm}^3$ )
L	1.59	0.399	0.148	SIC	1.38	0.481	0.216	S	1.66	0.375	0.054

MORE  
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<b>ENTER</b> Enclosed space floor thickness, $L_{\text{crack}}$ (cm)	<b>ENTER</b> Soil-bldg. pressure differential, $\Delta P$ ( $\text{g/cm-s}^2$ )	<b>ENTER</b> Enclosed space floor length, $L_B$ (cm)	<b>ENTER</b> Enclosed space floor width, $W_B$ (cm)	<b>ENTER</b> Enclosed space height, $H_B$ (cm)	<b>ENTER</b> Floor-wall seam crack width, $w$ (cm)	<b>ENTER</b> Indoor air exchange rate, ER (1/h)	<b>ENTER</b> Average vapor flow rate into bldg. OR Leave blank to calculate $Q_{\text{soil}}$ (L/m)
10	40	1000	1000	366	0.1	0.9	5

MORE  
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<b>ENTER</b> Averaging time for carcinogens, $AT_C$ (yrs)	<b>ENTER</b> Averaging time for noncarcinogens, $AT_{NC}$ (yrs)	<b>ENTER</b> Exposure duration, ED (yrs)	<b>ENTER</b> Exposure frequency, EF (days/yr)	<b>ENTER</b> Target risk for carcinogens, TR (unitless)	<b>ENTER</b> Target hazard quotient for noncarcinogens, THQ (unitless)
70	30	30	350	1.0E-06	1

END

Used to calculate risk-based  
groundwater concentration.

RESULTS SHEET

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA	NA	6.30E+06	NA

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	2.8E-04

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)

MESSAGE: Risk/HQ or risk-based groundwater concentration is based on a route-to-route extrapolation.

SCROLL  
DOWN  
TO "END"

END