

US EPA ARCHIVE DOCUMENT

DATA ENTRY SHEET

GW-ADV
Version 3.0; 02/03Reset to
Defaults

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

| | | | | | | | | | | | | |
|--|---|--|---|--|---|---|--|---|---|---|--|--|
| ENTER Chemical CAS No. (numbers only, no dashes) | | ENTER Initial groundwater conc., C_w ($\mu\text{g/L}$) | | | | | | | | | | |
| 156592 | | 6.00E+01 | | Chemical cis-1,2-Dichloroethylene | | | | | | | | |
| ENTER Average soil/ groundwater temperature, T_s ($^{\circ}\text{C}$) | ENTER Depth below grade to bottom of enclosed space floor, L_F (cm) | ENTER Depth below grade to water table, L_{WT} (cm) | ENTER Totals must add up to value of L_{WT} (cell G28) Thickness of soil stratum A, h_A (cm) | | | ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm) | ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm) | ENTER Soil stratum directly above water table, (Enter A, B, or C) | ENTER SCS soil type directly above water table | ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability) | OR | ENTER User-defined stratum A soil vapor permeability, k_v (cm^2) |
| 8.33 | 200 | 1417.32 | 640.08 | 548.64 | 228.6 | | C | S | L | | | |
| ENTER Stratum A SCS soil type Lookup Soil Parameters | ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3) | ENTER Stratum A soil total porosity, n^A (unitless) | ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3) | ENTER Stratum B SCS soil type Lookup Soil Parameters | ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3) | ENTER Stratum B soil total porosity, n^B (unitless) | ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3) | ENTER Stratum C SCS soil type Lookup Soil Parameters | ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3) | ENTER Stratum C soil total porosity, n^C (unitless) | ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3) | |
| L | 1.59 | 0.399 | 0.148 | SIC | 1.38 | 0.481 | 0.216 | S | 1.66 | 0.375 | 0.054 | |
| ENTER Enclosed space floor thickness, L_{crack} (cm) | ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2) | ENTER Enclosed space floor length, L_B (cm) | ENTER Enclosed space floor width, W_B (cm) | ENTER Enclosed space height, H_B (cm) | ENTER Floor-wall seam crack width, w (cm) | ENTER Indoor air exchange rate, ER (1/h) | ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m) | | | | | |
| 10 | 40 | 1000 | 1000 | 366 | 0.1 | 0.9 | 5 | | | | | |
| 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-06 | 1 | | | | | | | |
| Used to calculate risk-based groundwater concentration. | | | | | | | | | | | | |

END

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 | 3.50E+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 | 8.4E-03 |

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