



Illinois Environmental Protection Agency

Bureau of Land • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

The Illinois EPA is authorized to require this information under Section 4 and Title XVI of the Environmental Protection Act (415 ILCS 5/4, 5/57 - 57.17). Failure to disclose this information may result in a civil penalty of not to exceed \$50,000.00 for the violation and an additional civil penalty of not to exceed \$10,000.00 for each day during which the violation continues (415 ILCS 5/42). Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony (415 ILCS 5/44(h) and 57.17). This form has been approved by the Forms Management Center.

Leaking Underground Storage Tank Program RBCA Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): _____ IEPA LPC # (10-digit): _____

Site Name: _____

Site Address (not a P.O. Box): _____

City: _____ County: _____ Zip Code: _____

Leaking UST Technical File

B. Tier 2 Calculation Information

Equation(s) Used (ex: R12, R14, R26): _____

Contact Information for Individual Who Performed Calculations: _____

Land Use: _____ Soil Type: _____

Groundwater: Class I Class II

Mass Limit: Yes No If Yes, then Specify Acreage: 0.5 1 2 5 10 30

Result from S17/S28 used in R26? Yes No Specify C_{source} from S17/S28 _____ mg/L

- Mass Limit Acreage other than defaults must always be rounded up.
- Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.
- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.
- Inputs must be submitted in the designated unit.

Symbol	Unit	Symbol	Unit
AT_c	yr	d	cm
AT_{η}	yr	D_{air}	cm^2/s
BW	kg	D_{water}	cm^2/s
C_{source}	mg/L	D_s^{eff}	cm^2/s
$C_{(x)}$	mg/L	ED	yr
$C_{(x)}/C_{source}$	unitless	EF	d/yr

Incident #: _____

Chemical: _____

Land Use: _____

Symbol		Unit	Symbol		Unit
erf	=	unitless	RAF _d (PNAs)	= 0.05	unitless
f _{oc}	=	g/g	RAF _d (inorganics)	= 0	unitless
GW _{comp}	=	mg/L	RAF ₀	= 1.0	unitless
GW _{source}	=	mg/L	RBSL _{air} (carcinogenic)	=	µg/m ³
H'	=	cm ³ _{water} /cm ³ _{air}	RBSL _{air} (noncarcinogenic)	=	µg/m ³
i	=	cm/cm	RfD _i	=	mg/kg-d
l	= 30	cm/yr	RfD ₀	=	mg/kg-d
IR _{air}	= 20	m ³ /d	SA	= 3,160	cm ² /d
IR _{soil}	=	mg/d	S _d	=	cm
IR _w	=	L/d	S _w	=	cm
K	=	cm/d for R15, R19, R26; cm/yr for R24	SF _i	=	(mg/kg-d) ⁻¹
K _{oc}	=	cm ³ /g or L/kg	SF ₀	=	(mg/kg-d) ⁻¹
k _s (non-ionizing organics)	=	cm ³ _{water} /g _{soil}	THQ	= 1	unitless
k _s (ionizing organics)	=	cm ³ _{water} /g _{soil}	TR	=	unitless
k _s (inorganics)	=	cm ³ _{water} /g _{soil}	U	=	cm/d
L _s	= 100	cm	U _{air}	= 225	cm/s
LF _{sw}	=	(mg/L _{water}) / (mg/kg _{soil})	U _{gw}	=	cm/yr
M	= 0.5	mg/cm ²	VF _p	=	kg/m ³
Pe	= 6.9 · 10 ⁻¹⁴	g/cm ² -s	VF _{samb}	=	(mg/m ³ _{air})/mg/kg _{soil} or kg/m ³
RAF _d	= 0.5	unitless	VF _{ss}	=	kg/m ³

Incident #: _____

Chemical: _____

Land Use: _____

Symbol		Unit
W	=	cm
w	=	g _{water} /g _{soil}
X	=	cm
α_x	=	cm
α_y	=	cm
α_z	=	cm
δ_{air}	= 200	cm
δ_{gw}	= 200	cm

Symbol		Unit
θ_{as}	=	cm ³ _{air} /cm ³ _{soil}
θ_{ws}	=	cm ³ _{water} /cm ³ _{soil}
θ_T	=	cm ³ /cm ³ _{soil}
λ	=	d ⁻¹
π	= 3.1416	
ρ_b	=	g/cm ³
ρ_w	= 1	g/cm ³
τ	= 9.46 · 10 ⁸	s

Equation	Result	Unit(s)
R1	=	mg/kg
R2	=	mg/kg
R7	=	mg/kg
R8	=	mg/kg
R12	=	mg/kg
R25	=	mg/L