



Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program SSL 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: S12, S17, S28): _____

Contact Information for Individual Who Performed Calculations:

Land Use: _____ USDA Soil Type: _____

Groundwater: Class I Class II

Mass Limit: Yes No If Yes, then specify acreage: 0.5 1 2 5 10 30

- 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		Units
AT (ingestion)	=	yr
AT (inhalation)	=	yr
AT _c	=	yr
BW	=	kg
C _{sat}	=	mg/kg
C _w	=	mg/L
d	=	m

Symbol		Units
d _a	=	m
d _s	=	m
D _A	=	cm ² /s
D _i	=	cm ² /s
D _w	=	cm ² /s
DF	=	unitless
ED (ingestion of carcinogens)	=	yr

The Agency 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 material statement or representation, orally or in writing, in any label, manifest, record, report, permit, or license, or other document filed, maintained or used for the purpose of compliance with Title XVI commits a Class 4 felony. Any second or subsequent offense after conviction hereunder is a Class 3 felony (415 ILCS 5/44 and 57.17).

Incident #: _____

Chemical: _____

Land Use: _____

Symbol		Units
ED (inhalation of carcinogens)	=	yr
ED (ingestion of noncarcinogens)	=	yr
ED (inhalation of noncarcinogens)	=	yr
ED (ingestion of groundwater)	=	yr
ED _{M-L}	=	yr
EF	=	d/yr
F(x)	=	unitless
f _{oc}	=	g/g
GW _{obj}	=	mg/L
H'	=	unitless
i	=	m/m
l	=	m/yr
l _{M-L}	=	m/yr
IF _{soil-adj}	=	(mg-yr)/(kg-d)
IR _{soil}	=	mg/d
IR _w	=	L/d
K	=	m/yr
K _d (non-ionizing organics)	=	cm ³ /g or L/kg
K _d (ionizing organics)	=	cm ³ /g or L/kg
K _d (inorganics)	=	cm ³ /g or L/kg

Symbol		Units
K _{oc}	=	cm ³ /g or L/kg
K _s	=	m/yr
L	=	m
PEF	=	m ³ /kg
PEF'	=	m ³ /kg
Q/C (VF equations)	=	(g/m ² -s)/(kg/m ³)
Q/C (PEF equations)	=	(g/m ² -s)/(kg/m ³)
RfC	=	mg/m ³
RfD _o	=	mg/(kg-d)
S	=	mg/L
SF _o	=	(mg/kg-d) ⁻¹
T	=	s
T _{M-L}	=	yr
THQ	=	unitless
TR	=	unitless
U _m	=	m/s
URF	=	(μg/m ³) ⁻¹
U _t	=	m/s
V	=	unitless
VF	=	m ³ /kg

Incident #: _____

Chemical: _____

Land Use: _____

Symbol		Units
VF'	=	m ³ /kg
VF _{M-L}	=	m ³ /kg
VF' _{M-L}	=	m ³ /kg
η	=	L _{pore} /L _{soil}
θ _a	=	L _{air} /L _{soil}

Symbol		Units
θ _w	=	L _{water} /L _{soil}
ρ _b	=	kg/L or g/cm ³
ρ _s	=	g/cm ³
ρ _w	=	g/cm ³
1/(2b+3)	=	unitless

Equation		Units
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/kg
S7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/kg