Site-specific

Composite Worker Equation Inputs for Soil

Calculations for Deriving RBCL for PCBs Considering the Noncancer Effects of Aroclor 1254

Variable	Value
TR (target cancer risk) unitless	.00001
THQ (target hazard quotient) unitless	1
AT_w (averaging time)	365
EF_w (exposure frequency) d/yr	250
ED_w (exposure duration) yr	25
ET_w (exposure time) hr	8
LT (lifetime) yr	70
BW_w (body weight)	80
IR_w (soil ingestion rate) mg/day	30
SA_w (surface area) cm^2/day	3527
AF_w (skin adherence factor) mg/cm^2	0.12
City (Climate Zone) PEF Selection	0
A_c (acres)	.5
Q/C_{wp} (g/m^2-s per kg/m^3)	93.77
PEF (particulate emission factor) m^3/kg	1359344438
A (PEF Dispersion Constant)	16.2302
B (PEF Dispersion Constant)	18.7762
C (PEF Dispersion Constant)	216.108
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.69
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.194
City (Climate Zone) VF Selection	0
A_c (acres)	.5
Q/C_{vol} (g/m^2-s per kg/m^3)	68.18
foc (fraction organic carbon in soil) g/g	0.006
ρ$_b$ (dry soil bulk density) g/cm^3	1.5
ρ$_s$ (soil particle density) g/cm^3	2.5
n (total soil porosity) L_{pore}/L_{soil}	0.43396
θ$_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396
θ$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	819936000
A (VF Dispersion Constant)	11.911

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Site-specific

Composite Worker Equation Inputs for Soil

Variable	Value
B (VF Dispersion Constant)	18.4385
C (VF Dispersion Constant)	209.7845
City (Climate Zone) VF_{ml} Selection	0
VF_s (volitization factor) m^3/kg	.
Q/C_{vol} (g/m^2-s per kg/m^3)	68.18365
A_s (acres)	.5
T (exposure interval) yr	26
d_s (depth of source) m	.
ρ$_b$ (dry soil bulk density) g/cm^3	1.5
A (VF Dispersion Constant - Mass Limit)	11.911
B (VF Dispersion Constant - Mass Limit)	18.4385
C (VF Dispersion Constant - Mass Limit)	209.7845

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Site-specific

Composite Worker Screening Levels (RSL) for Soil

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF (mg/kg-day)$^{-1}$	SFO Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Henrys law constant
Aroclor 1254	11097-69-1	No	Yes	2.00E+00	U	-		2.00E-05	U	-		1	0.14	1	8.44E+05	0.0116

Chemical	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=.00001 (mg/kg)	Dermal SL TR=.00001 (mg/kg)	Inhalation SL TR=.00001 (mg/kg)	Carcinogenic SL TR=.00001 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)	Screening Level (mg/kg)
Aroclor 1254	-	1.36E+09	5.45E+01	2.76E+01	-	1.83E+01	7.79E+01	3.94E+01	-	2.62E+01	1.83E+01 ca**

Noncancer screening level

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