

Tier 2 default.

Inputs Merritt Sands

1630 Park St. Alameda

Input Parameters	Units	Residential		Commercial/ Industrial
		Child	Adult	Worker
Soil-Specific Parameters				
Capillary fringe thickness	cm	=adult residential	10.1	=adult residential
Capillary fringe air content	cm ³ /cm ³		0.025	
Capillary fringe water content	cm ³ /cm ³		0.325	
Fraction organic carbon (FOC*)	g oc/g soil		0.01	
Groundwater Darcy velocity	cm/yr		600	
Groundwater mixing zone thickness	cm		305	
Infiltration rate through the vadose zone	cm/yr		9	
Soil bulk density	g/cm ³		1.72	
Soil to skin adherence factor	mg/cm ²	0.2	0.2	0.2
Total soil porosity	cm ³ /cm ³	=adult residential	0.35	=adult residential
Vadose zone air content	cm ³ /cm ³		0.2	
Vadose zone water content	cm ³ /cm ³		0.15	
Vadose zone thickness	cm		232.9	
Structural and Climatic Parameters				
Areal fraction of cracks in building foundation	cm ² /cm ²	=adult residential	0.001	0.001
Foundation air content	cm ³ /cm ³		0.26	=adult residential
Foundation water content	cm ³ /cm ³		0.12	
Foundation thickness	cm		15	15
Lower depth of surficial soil zone	cm		100.0 OK	=adult residential
Depth to subsurface soil sources	cm		100	
Depth to groundwater	cm		243	
Width of source area parallel to wind or groundwater flow direction	cm		1500	
Outdoor air mixing zone height	cm		200	
Particulate emission rate	g/cm ² -s		1.38E-11	1.38E-11
Wind speed above ground surface in outdoor air mixing zone	cm/s	322	=adult residential	

1630 Park St.

Inputs

Merritt Sands Tier 3

Input Parameters	Units	Residential		Commercial/ Industrial
		Child	Adult	Worker
Soil-Specific Parameters				
Capillary fringe thickness	cm	=adult residential	4.6	=adult residential
Capillary fringe air content	cm ³ /cm ³		0.038	
Capillary fringe water content	cm ³ /cm ³		0.342	
Fraction organic carbon (FOC*)	g oc/g soil		0.01	
Groundwater Darcy velocity	cm/yr		1500	
Groundwater mixing zone thickness	cm		260	
Infiltration rate through the vadose zone	cm/yr		15	
Soil bulk density	g/cm ³		1.70	
Soil to skin adherence factor	mg/cm ²	0.2	0.2	0.2
Total soil porosity	cm ³ /cm ³	=adult residential	0.38	=adult residential
Vadose zone air content	cm ³ /cm ³		0.26	
Vadose zone water content	cm ³ /cm ³		0.12	
Vadose zone thickness	cm		240	
Structural and Climatic Parameters				
Areal fraction of cracks in building foundation	cm ² /cm ²	=adult residential	0.001	0.001
Foundation air content	cm ³ /cm ³		0.26	=adult residential
Foundation water content	cm ³ /cm ³		0.12	
Foundation thickness	cm		15	15
Lower depth of surficial soil zone	cm		100.0	=adult residential
Depth to subsurface soil sources	cm		91	
Depth to groundwater	cm		240	
Width of source area parallel to wind or groundwater flow direction	cm		2400	
Outdoor air mixing zone height	cm		200	
Particulate emission rate	g/cm ² -s		2.20E-10	1.38E-11
Wind speed above ground surface in outdoor air mixing zone	cm/s	230	=adult residential	

Inputs

Input Parameters	Units	Residential		Commercial/ Industrial
		Child	Adult	Worker
Exposure Parameters				
Averaging time for carcinogens	yr	=adult residential	70	=adult residential
Averaging time for non-carcinogens	yr	6	24	25
Averaging time for vapor flux	s	=adult residential	9.46E+08	7.88E+08
Body weight	kg	15	70	70
Building air volume/floor area	cm ³ /cm ²	=adult residential	229	305
Exposure duration	yr	6	24	25
Exposure frequency	d/yr	350	350	250
Exposure frequency to water used for recreation	d/yr	120	120	0
Exposure time to indoor air	hr/d	24	24	9
Exposure time to outdoor air	hr/d	16	16	9
Exposure time to water used for recreation	hr/d	2	1.0	0
Groundwater ingestion rate	L/d	1	2	1
Indoor air exchange rate	1/s	=adult residential	5.60E-04	1.40E-03
Indoor inhalation rate	m ³ /d	10	15	20
Ingestion rate of water used for recreation	L/hr	0.05	0.05	0
Outdoor inhalation rate	m ³ /d	10	20	20
Skin surface area exposed to soil	cm ²	2000	5000	5000
Skin surface area exposed to water used for recreation	cm ²	8000	20000	0
Soil ingestion rate	mg/d	200	100	50
TARGET RISK LEVELS				
Individual Excess Lifetime Cancer Risk	unitless	=adult residential	1.0E-05	1.0E-05
Hazard quotient	unitless		1.0	1.0

Inputs

Input Parameters	Units	Residential		Commercial/ Industrial
		Child	Adult	Worker
Exposure Parameters				
Averaging time for carcinogens	yr	=adult residential	70	=adult residential
Averaging time for non-carcinogens	yr	6	30	25
Averaging time for vapor flux	s	=adult residential	9.46E+08	7.88E+08
Body weight	kg	15	70	70
Building air volume/floor area	cm ³ /cm ²	=adult residential	200	300
Exposure duration	yr	6	30	25
Exposure frequency	d/yr	350	350	180
Exposure frequency to water used for recreation	d/yr	120	120	0
Exposure time to indoor air	hr/d	24	24	9
Exposure time to outdoor air	hr/d	16	16	9
Exposure time to water used for recreation	hr/d	2	1.0	0
Groundwater ingestion rate	L/d	1	2	1
Indoor air exchange rate	1/s	=adult residential	5.60E-04	1.40E-03
Indoor inhalation rate	m ³ /d	10	15	20
Ingestion rate of water used for recreation	L/hr	0.05	0.05	0
Outdoor inhalation rate	m ³ /d	10	20	10
Skin surface area exposed to soil	cm ²	2000	5800	5800
Skin surface area exposed to water used for recreation	cm ²	8000	20000	0
Soil ingestion rate	mg/d	200	100	100
TARGET RISK LEVELS				
Individual Excess Lifetime Cancer Risk	unitless	=adult residential	1.0E-05	1.0E-05
Hazard quotient	unitless		1.0	1.0