

## HOT SPOT CONCENTRATIONS

Contaminated Medium <sup>#</sup>		SOIL mg/Kg (ppm)										Soil Gas <sup>†</sup> (µg/m <sup>3</sup> )						AIR (µg/m <sup>3</sup> )					
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation (HTSP <sub>ss</sub> )										Vapor Intrusion into Buildings (HTSP <sub>sv</sub> )						INHALATION (HTSP <sub>air</sub> )					
Receptor Scenario		Residential		Urban Residential		Occupational		Construction Worker		Excavation Worker		Residential		Urban Residential		Occupational		Residential		Urban Residential		Occupational	
Direct or Indirect Pathway (see notes)		DC		DC		DC		DC		DC		ICA		ICA		ICA		DCA		DCA		DCA	
Contaminant	Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note
Acenaphthene	nc, v	47,000	>Csat	94,000	>Csat	700,000	>Csat	210,000	>Csat	-	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv
Acrylonitrile	c, v	86		250		400		4,000		110,000	>Csat	830		2,000		18,000		4.1		9.8		18	
Aldrin	c, v	3.1		7.8	>Csat	13	>Csat	80	>Csat	2,200	>Csat	11		27		250		0.06		0.14		0.25	
Anthracene	nc, v	230,000	>Csat	470,000	>Csat	-	>Max	-	>Max	-	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv
Arsenic	c, nv	43		100		190		970		27,000		-	NV	-	NV	-	NV	0.065		0.15		0.29	
Barium	nc, nv	150,000		310,000		-	>Max	690,000		-	>Max	-	NV	-	NV	-	NV	5.2		5.2		22	
Benz[a]anthracene	c, v	110	>Csat	250	>Csat	2,100	>Csat	17,000	>Csat	480,000	>Csat	-	>Pv	-	>Pv	-	>Pv	1.7		3.3		20	
Benzene	c, v	820	>Csat	2,400	>Csat	3,700	>Csat	12,000	>Csat	340,000	>Csat	7,200		17,000		160,000		36		85		160	
Benzidine	c, nv	0.05		0.12		1.0		8.2		230		-	NV	-	NV	-	NV	0.0015		0.0029		0.018	
Benzo[a]pyrene (BaP equivalents) **	c, nv	11		25	>Csat	210	>Csat	740	>Csat	21,000	>Csat	-	NV	-	NV	-	NV	0.021		0.021		0.088	
Benzo[b]fluoranthene	c, nv	110	>Csat	250	>Csat	2,100	>Csat	17,000	>Csat	490,000	>Csat	-	NV	-	NV	-	NV	1.7		3.3		20	
Benzo[k]fluoranthene	c, nv	1,100	>Csat	2,500	>Csat	21,000	>Csat	170,000	>Csat	-	>Max	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv
Beryllium	c, nv	1,600		3,100		23,000		7,000		190,000		-	NV	-	NV	-	NV	0.12		0.21		0.51	
Bis(2-ethylhexyl)phthalate	c, nv	3,900	>Csat	9,700	>Csat	16,000	>Csat	54,000	>Csat	-	>Max	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv
Bromodichloromethane	c, v	340	>Csat	1,200	>Csat	1,500	>Csat	23,000	>Csat	630,000	>Csat	1,500		3,600		33,000		7.6		18		33	
Bromoform	c, v	5,700	>Csat	17,000	>Csat	26,000	>Csat	71,000	>Csat	-	>Max	51,000		120,000		1,100,000		260		600		1,100	
Bromomethane	nc, v	460		920		7,500	>Csat	3,700	>Csat	100,000	>Csat	10,000		10,000		220,000		52		52		220	
Cadmium	c, nv	780		1,600		11,000		3,500		97,000		-	NV	-	NV	-	NV	0.10		0.10		0.44	
Carbon tetrachloride	c, v	750		2,100	>Csat	3,400	>Csat	13,000	>Csat	370,000	>Csat	9,400		22,000		200,000		47		110		200	
Chlorobenzene	nc, v	5,300	>Csat	11,000	>Csat	87,000	>Csat	47,000	>Csat	-	>Max	100,000		100,000		2,200,000		520		520		2,200	
Chlorodibromomethane	c, v	370		1,200	>Csat	1,700	>Csat	21,000	>Csat	580,000	>Csat	2,100		4,900		45,000		10.0		25		45	
Chloroethane	nc, v	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	21,000,000		21,000,000		-		100,000		100,000		440,000	
Chloroform	c, v	580		2,200	>Csat	2,600	>Csat	31,000	>Csat	870,000	>Csat	2,400		5,800		53,000		12		29		53	
Chloromethane	nc, v	14,000	>Csat	29,000	>Csat	250,000	>Csat	250,000	>Csat	-	>Max	190,000		190,000		3,900,000		940		940		3,900	
Chlordane	c, v	170	>Csat	420	>Csat	740	>Csat	1,500	>Csat	41,000	>Csat	560		1,300		-	>Pv	2.8		6.6		12	
Chromium (III)	nc, nv	-	>Max	-	>Max	-	>Max	-	>Max	-	>Max	-	NV	-	NV	-	NV	-		-		-	
Chromium (VI)	c, nv	30		67		630		4,900		140,000		-	NV	-	NV	-	NV	0.0012		0.0023		0.0150	
Chrysene	c, nv	11,000	>Csat	25,000	>Csat	210,000	>Csat	-	>Max	-	>Max	-	>Pv	-	>Pv	-	>Pv	170		330		-	>Pv
Copper	nc, nv	31,000		62,000		470,000		140,000		-		-	NV	-	NV	-	NV	-		-		-	
Cyanide (hydrogen cyanide) ^	nc, nv	470		940		7,000		2,100		59,000		1,700		1,700		35,000		8.3		8.3		35	
DDD (4,4'-Dichlorodiphenyldichloroethane)	c, nv	22		44		310		97		2,700	>Csat	-	NV	-	NV	-	NV	4.1		9.6		18	
DDE (4,4'-Dichlorodiphenyldichloroethene)	c, v	180		450		820		6,600	>Csat	180,000	>Csat	580		1,400		-	>Pv	2.9		6.8		13	
DDT (4,4'-Dichlorodiphenyltrichloroethane)	c, nv	190		460	>Csat	850	>Csat	1,600	>Csat	45,000	>Csat	-	NV	-	NV	-	NV	2.9		6.8		13	
Dibenz[a,h]anthracene	c, nv	11		25	>Csat	210	>Csat	1,700	>Csat	49,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv
Dichlorobenzene, 1,2-	nc, v	22,000	>Csat	44,000	>Csat	360,000	>Csat	200,000	>Csat	-	>Max	420,000		420,000		8,800,000		2,100		2,100		8,800	
Dichlorobenzene, 1,4-	c, v	1,400	>Csat	6,200	>Csat	6,400	>Csat	130,000	>Csat	-	>Max	5,100		12,000		110,000		26		60		110	
Dichlorobenzidine, 3,3-	c, nv	120	>Csat	300	>Csat	510	>Csat	4,200	>Csat	120,000	>Csat	-	NV	-	NV	-	NV	0.83		2.0		3.6	
Dichloroethane, 1,1-	c, v	5,800	>Csat	19,000	>Csat	26,000	>Csat	320,000	>Csat	-	>Max	35,000		83,000		770,000		180		410		770	
Dichloroethene, 1,1-	nc, v	18,000	>Csat	35,000	>Csat	290,000	>Csat	130,000	>Csat	-	>Max	420,000		420,000		8,800,000		2,100		2,100		8,800	
Dichloroethene, cis-1,2-	nc, v	1,600	>Csat	3,100	>Csat	23,000	>Csat	7,100	>Csat	200,000	>Csat	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv
Dichloroethene, trans-1,2-	nc, v	16,000	>Csat	31,000	>Csat	230,000	>Csat	71,000	>Csat	-	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv
Dichloroethylether	c, v	29		96		130		1,600		45,000	>Csat	170		400		3,700		0.85		2.0		3.7	
Dichloromethane	c, v	4,500	>Csat	8,900	>Csat	67,000	>Csat	21,000	>Csat	580,000	>Max	450,000		370,000		26,000,000		2,300		1,900		26,000	
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	nc, nv	6,300	>Csat	13,000	>Csat	82,000	>Csat	27,000	>Csat	740,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv
Dieldrin	c, nv	3.4		8.5		14		120	>Csat	3,300	>Csat	-	>Pv	-	>Pv	-	>Pv	0.061		0.14		0.27	
Dinitrotoluene, 2,6-	nc, nv	36	>Csat	90	>Csat	150	>Csat	800	>Csat	22,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv
Di-n-propylnitrosamine	c, nv	7.8		19		33		270	>Csat	7,400	>Csat	-	NV	-	NV	-	NV	0.14		0.33		0.61	

Contaminated Medium#		SOIL mg/Kg (ppm)										Soil Gas† (µg/m³)						AIR (µg/m³)						
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation (HTSP <sub>SS</sub> )										Vapor Intrusion into Buildings (HTSP <sub>SV</sub> )						INHALATION (HTSP <sub>air</sub> )						
Receptor Scenario		Residential		Urban Residential		Occupational		Construction Worker		Excavation Worker		Residential		Urban Residential		Occupational		Residential		Urban Residential		Occupational		
Direct or Indirect Pathway (see notes)		DC		DC		DC		DC		DC		ICA		ICA		ICA		DCA		DCA		DCA		
Contaminant	Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note		Note	
Dioxane, 1,4-	c, v	540		1,400		2,400		21,000		>Csat	590,000		>Csat	11,000		27,000		250,000		56		130		250
Diphenylnitrosamine	c, nv	11,000		28,000	>Csat	47,000	>Csat	380,000	>Csat	-	>Max	-	NV	-	NV	-	NV	110		260		470		
EDB (1,2-dibromoethane)	c, v	16		53		73		900	>Csat	25,000	>Csat	94		220		2,000		0.47		1.1		2.0		
EDC (1,2-dichloroethane)	c, v	360		1,200		1,600	>Csat	10,000	>Csat	280,000	>Csat	2,200		5,100		47,000		11.0		26		47		
Endosulfan, (alpha-beta)	nc, v	3,800	>Csat	7,600	>Csat	49,000	>Csat	16,000	>Csat	450,000	>Csat	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	
Endrin	nc, nv	190	>Csat	380	>Csat	2,500	>Csat	800	>Csat	22,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv	
Ethylbenzene	c, v	3,400	>Csat	11,000	>Csat	15,000	>Csat	170,000	>Csat	-	>Max	22,000		53,000		490,000		110		270		490		
Fluoranthene	nc, nv	24,000	>Csat	48,000	>Csat	300,000	>Csat	100,000	>Csat	-	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	
Fluorene	nc, v	31,000	>Csat	63,000	>Csat	470,000		140,000	>Csat	-	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	
Formaldehyde	c*, v	1,500	>Csat	6,600	>Csat	6,400		28,000	>Csat	780,000	>Csat	4,300		10,000		94,000		22		51		94		
Heptachlor	c, v	11		28		45		400		11,000	>Csat	43		100		940		0.22		0.51		0.94		
Heptachlor Epoxide	c, v	5.5		14		24		35		970	>Csat	22		51		470		0.11		0.26		0.47		
Hexachlorobenzene	c, v	21		67		93		1,100		32,000	>Csat	120		290		2,700		0.61		1.4		2.7		
Hexachlorocyclohexane, alpha- (alpha-HCH)	c, nv	8.6		21	>Csat	36		300	>Csat	8,300	>Csat	-	NV	-	NV	-	NV	0.16		0.37		0.68		
Hexachlorocyclohexane, gamma- (Lindane)	c, nv	49	>Csat	120	>Csat	210		800	>Csat	22,000	>Csat	-	NV	-	NV	-	NV	0.91		2.1		4.0		
Hexachloroethane	c*, v	410	>Csat	810	>Csat	3,200		1,800	>Csat	51,000	>Csat	5,100		12,000		110,000		26		60		110		
Indeno[1,2,3-cd]pyrene	c, nv	110	>Csat	250	>Csat	2,100	>Csat	17,000	>Csat	490,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv	
Lead	nc, nv	4,000	L	4,000	L	8,000		8,000		8,000		-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv	
Manganese	nc, nv	18,000		36,000		250,000		82,000		2,800,000		-	NV	-	NV	-	NV	0.52		0.52		2.2		
MCPA ((4-chloro-2-methylphenoxy)acetic acid)	nc, nv	320	>Csat	630	>Csat	4,100		1,300	>Csat	37,000	>Csat	-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv	
Mercury	nc, nv	230		470		3,500		1,100		29,000		-	NV	-	NV	-	NV	3.1		3.1		13.0		
MTBE (methyl t-butyl ether)	c, v	25,000	>Csat	73,000	>Csat	110,000		-	>Max	32,000,000	>Max	220,000		510,000		4,700,000		1,100		2,600		4,700		
Naphthalene	c, v	530	>Csat	1,200	>Csat	2,300		7,500	>Csat	210,000	>Csat	1,700		3,900		36,000		8.3		20		36		
Nickel	c*, nv	15,000		31,000		220,000		70,000		1,900,000	>Max	-	NV	-	NV	-	NV	0.94		0.94		3.9		
Pentachlorophenol	c, nv	100		260		400		3,400		96,000	>Csat	-	NV	-	NV	-	NV	55		130		240		
Polychlorinated biphenyls (Total PCBs) **	c*, v	3.3	>Csat	3.3	>Csat	5.9		49	>Csat	1,400	>Csat	99	>Pv	230	>Pv	2,200	>Pv	0.38		0.90		1.7		
Propylbenzene, iso-	nc, v	35,000	>Csat	70,000	>Csat	570,000		270,000	>Csat	7,500,000	>Max	830,000		830,000		18,000,000		4,200		4,200		18,000		
Pyrene	nc, v	18,000	>Csat	36,000	>Csat	230,000		75,000	>Csat	2,100,000	>Max	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	-	>Pv	
Silver	nc, nv	3,900		7,800		58,000		18,000		490,000		-	NV	-	NV	-	NV	-	>Pv	-	>Pv	-	>Pv	
Styrene	nc, v	79,000	>Csat	160,000	>Csat	-		560,000	>Csat	-	>Max	2,100,000		2,100,000		44,000,000		10,000		10,000		44,000		
2,3,7,8-TCDD (dioxin) equivalents **	c, v	0.00047	>Csat	0.001	>Csat	0.0016		0.0023	>Csat	0.063	>Csat	0.0015		0.0035		0.032		0.0000057		0.000013		0.000025		
Tetrachloroethene (PCE)	c*, v	2,700	>Csat	5,400	>Csat	43,000		18,000	>Csat	500,000	>Csat	83,000		83,000		1,800,000		420		420		1,800		
Toluene	nc, v	58,000	>Csat	120,000	>Csat	880,000		280,000	>Csat	7,700,000	>Csat	10,000,000		10,000,000		-		52,000		52,000		220,000		
Toxaphene	c, nv	49		120		210		1,700	>Csat	47,000	>Csat	-	NV	-	NV	-	NV	0.88		2.1		3.8		
Trichloro-1,2,2-trifluoroethane, 1,1,2- (Freon 113)	nc, v	-	>Max	-	>Max	-		-	>Max	-	>Max	63,000,000		63,000,000		100,000,000		310,000		310,000		1,300,000		
Trichloroethane, 1,1,1-	c, v	530,000	>Csat	-	>Max	-		-	>Max	-	>Max	10,000,000		10,000,000		-		52,000		52,000		220,000		
Trichloroethane, 1,1,2-	c*, v	32		63		550		540		15,000	>Csat	420		420		8,800		2.10		2.1		8.8		
Trichloroethene	nc*, v	180		350	>Csat	2,900		1,300	>Csat	37,000	>Max	4,200		4,200		88,000		21		21		88		
Trichlorofluoromethane (Freon 11)	nc, v	76,000	>Csat	150,000	>Csat	-		690,000	>Csat	-	>Max	1,500,000		1,500,000		31,000,000		7,300		7,300		31,000		
Trichlorophenol, 2,4,6-	c*, nv	630		1,300		8,200		2,700		74,000	>Csat	-	NV	-	NV	-	NV	91	>Pv	210	>Pv	400	>Pv	
Trimethylbenzene, 1,2,4-	nc, v	4,300	>Csat	8,600	>Csat	69,000	>Csat	29,000	>Csat	810,000	>Csat	130,000		130,000		2,600,000		630		630		2,600		
Trimethylbenzene, 1,3,5-	nc, v	4,300	>Csat	8,600	>Csat	69,000	>Csat	29,000	>Csat	810,000	>Csat	130,000		130,000		2,600,000		630		630		2,600		
Vinyl chloride	c, v	36		80		440		3,400	>Csat	95,000	>Csat	3,300		4,100		280,000		17		20		280		
Xylenes	nc, v	14,000	>Csat	29,000	>Csat	250,000		200,000	>Csat	5,600,000	>Max	210,000		210,000		4,400,000		1,000		1,000		4,400		

NOTES:

Direct or Indirect Pathway Codes have the following meanings: DC means it is a direct contact pathway with a limiting value of Csat. DCA means it is a direct contact pathway with a limiting value equal to the vapor pressure, Pv. ICA means it is a direct contact pathway with a limiting value equal to the vapor pressure, Pv.



# Highly concentrated hot spot values for groundwater are not provided because a hot spot for water is based on a significant adverse effect on the beneficial use as described in OAR 340-122-0115(32)(a) and OAR 340-122-0115(51). For a beneficial use of domestic drinking water, the National Primary Drinking Water Standard Maximum Contaminant Levels (MCLs) and Secondary Drinking Water Standards are the applicable or relevant water quality standards. For those few contaminants with both MCLs and Secondary Drinking Water Standards, the more stringent standard is used. In the absence of these standards, acceptable risk levels are represented by risk-based concentrations corresponding to ingestion and inhalation from tapwater (RBCtw).

\*\* Compounds in this category are considered in aggregate as a chemical class. See notes to accompany Risk-Based Concentrations for Individual Chemicals, November 1st, 2015.

† Soil gas data may be used instead of ambient air sampling data, but can be superseded by reliable direct air sampling results when available.

- All values that exceed a theoretical limit (water solubility, or soil theoretical maximum) are removed from the table and replaced with "-". Values exceeding saturation limits (>Csat) or vapor pressure (>Pv) may be shown with annotation.

c – The hotspot values shown are based on a cancer endpoint.

nc – The hotspot values shown are based on a noncancer endpoint.

c\* – The hotspot values shown are based primarily on a cancer endpoint, but there are one or more scenarios where they are based on a noncancer endpoint.

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NV – Not Considered Volatile