

Table 4D Pathway Specific Standards for Industrial Soil (mg/kg)

Land Use / Receptor	Industrial Land Use					
	Pathway	Soil Contact / Ingestion	Inhalation of Indoor Air		Leaching to Potable Groundwater	
			Coarse / Fine	Fine	Coarse	Fine
Parameter	Coarse / Fine	Fine	Coarse	Fine	Coarse	
Inorganic Parameters						
Aluminum	198,000	-	-	-	-	
Antimony	63	-	-	-	-	
Arsenic	31	-	-	-	-	
Barium	140,000	-	-	-	-	
Beryllium	320	-	-	-	-	
Boron (Total)	24,000	-	-	-	-	
Boron (Hot Water Soluble)	-	-	-	-	-	
Cadmium	2,090	-	-	-	-	
Chromium (hexavalent)	1,300	-	-	-	-	
Chromium (total)	6,700	-	-	-	-	
Cobalt	250	-	-	-	-	
Copper	20,000	-	-	-	-	
Cyanide	2,300	-	-	-	-	
Iron	144,000	-	-	-	-	
Lead	8,200	-	-	-	-	
Manganese	-	-	-	-	-	
Mercury (total)	690	-	-	-	-	
Methylmercury	20	-	-	-	-	
Molybdenum	1,200	-	-	-	-	
Nickel	2,200	-	-	-	-	
Selenium	4,050	-	-	-	-	
Silver	490	-	-	-	-	
Strontium	122,000	-	-	-	-	
Thallium	1	-	-	-	-	
Tin	122,000	-	-	-	-	
Uranium	510	-	-	-	-	
Vanadium	160	-	-	-	-	
Zinc	47,000	-	-	-	-	
Petroleum Hydrocarbons (PHC) Parameters						
Benzene	360	33	2.5	0.094	0.042	
Toluene	110,000	>RES	>RES	0.74	0.35	
Ethylbenzene	49,000	>RES	>RES	0.13	0.065	
Xylene	730,000	>RES	110	22	11	
Modified TPH (Gas)	77,000	78,000	870	1,900	940	
Modified TPH (Fuel)	47,000	>RES	4,000	4,700	1,800	
Modified TPH (Lube)	74,000	>RES	23,000	>RES	15,000	
MTBE	6,800	7.4	0.57	0.05	0.062	
Polycyclic Aromatic Hydrocarbons (PAH) Parameters						
Non-Carcinogenic PAH Compounds						
Naphthalene	2,800	370	25	28	53	
1 - Methylnaphthalene	560	-	-	42	30	
2 - Methylnaphthalene	560	-	-	42	30	
Acenaphthene	8,000	770,000	43,000	-	-	
Acenaphthylene	96	390	66	32	23	
Anthracene	37,000	-	-	-	-	
Fluoranthene	5,300	-	-	-	-	
Fluorene	4,100	-	91000	-	-	
Phenanthrene	-	-	-	24	17	
Pyrene	3,200	-	-	-	-	
Carcinogenic PAH Compounds						
BaP Total Potency Equivalents	5.3	-	-	IACR<1	IACR<1	
Benz[a]anthracene	-	-	-	-	-	
Benzo[a]pyrene	-	-	-	-	-	
Benzo[b,j,k]fluoranthene isomers	-	-	-	-	-	
Benzo[g,h,i]perylene	-	-	-	-	-	
Chrysene	-	-	-	-	-	
Dibenz[a,h]anthracene	-	-	-	-	-	
Indeno[1,2,3-c,d]pyrene	-	-	-	-	-	
Volatile Organic Compound (VOC) Parameters						
Bromodichloromethane	180	-	-	1.9	1.5	
Bromoform	1,400	17	6.1	2.9	2.3	

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Bromomethane	66	0.1	0.05	0.1	0.097	
Carbon Tetrachloride (Tetrachloromethane)	260	0.09	0.05	0.092	0.16	
Chlorobenzene	300,000	2.7	0.22	0.61	1.1	
Chloroethane	-	-	-	-	-	
Chloroform	4,400	0.15	0.05	0.62	1	
Chloromethane	-	-	-	-	-	
Dibromochloromethane	14,000	76	2.5	0.91	1.5	
1,2-Dichlorobenzene	300,000	1,700	130	0.097	0.18	
1,3-Dichlorobenzene	4,400	-	-	34	24	
1,4-Dichlorobenzene	74,000	100	8	0.051	0.098	
1,1-Dichloroethane	8,800	39	56	0.6	0.47	
1,2-Dichloroethane	4,200	0.37	0.05	0.05	0.05	
1,1-Dichloroethylene	34,000	3.1	0.27	0.15	0.24	
cis-1,2-Dichloroethylene	6,600	37	55	2.5	1.9	
trans-1,2-Dichloroethylene	4,400	9.3	1.3	2.5	1.9	
1,2-Dichloropropane	310	0.68	0.16	0.74	0.54	
1,3-Dichloropropene	8.1	-	-	-	-	
Ethylene Dibromide	3.1	0.05	0.05	0.05	0.05	
Methylene Chloride (Dichloromethane)	7,300	110	9	0.21	0.32	
Styrene	26,000	170	42	66	47	
1,1,1,2-Tetrachloroethane	55	0.94	0.19	0.19	0.14	
Tetrachloroethylene	9,600	26	2	1.6	1.6	
1,1,1-Trichloroethane	440,000	42	6.1	27	20	
1,1,2-Trichloroethane	190	9.1	0.42	0.73	0.54	
Trichloroethylene	1,700	9.2	1.1	0.01	0.01	
Vinyl Chloride	110	0.055	0.02	0.02	0.02	
Pesticides						
Aldicarb	160	-	-	0.041	0.065	
Aldrin	44	-	-	0.59	11	
Atrazine	80	-	-	0.1	0.19	
Azinphos-methyl	400	-	-	0.41	0.75	
Bendiocarb	640	-	-	0.14	0.21	
Bromoxynil	80	-	-	0.18	0.35	
Carbaryl	1,600	-	-	1.9	3.6	
Carbofuran	1,600	-	-	0.68	1.2	
Chlorothalonil	2,400	-	-	27	53	
Chlorpyrifos	1,600	-	-	49	95	
Cyanazine	210	-	-	0.12	0.21	
2,4-D	1,600	-	-	0.43	0.67	
DDT	1,600	-	-	5,900	11,000	
Diazinon	320	-	-	2.2	4.2	
Dicamba	2,000	-	-	0.5	0.79	
Dichlorop-methyl	160	-	-	12	24	
Dieldrin	44	-	-	0.59	1.1	
Dimethoate	320	-	-	0.077	0.12	
Dinoseb	160	-	-	2.8	5.5	
Diquat	1,300	-	-	11	21	
Diuron	2,500	-	-	1.9	3.5	
Endosulfan	3,000	-	-	99	190	
Endrin	130	-	-	2.4	4.7	
Glyphosate	4,800	-	-	0.95	1.4	
Heptachlor	2.8	2.4	0.094	0.05	0.076	
Lindane	48	-	-	0.31	0.6	
Linuron	320	-	-	0.56	1.1	
Malathion	3,200	-	-	0.82	1.3	
MCPA	80	-	-	0.02	0.32	
Methoxychlor	50,000	-	-	5,700	11,000	
Metolachlor	800	-	-	1.3	2.4	
Metribuzin	1,300	-	-	7.8	15	
Paraquat	160	-	-	1.1	2.2	
Parathion	800	-	-	7.2	14	
Phorate	32	-	-	0.075	0.14	

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Picloram	3,200	-	-	0.64	0.94	
Simazine	210	-	-	0.14	0.25	
Tebuthiuron	11,000	-	-	2.5	3.7	
Terbufos	8	-	-	0.08	0.15	
Toxaphene	7.3	-	-	3.3	6.3	
Triallate	2,100	-	-	16	31	
Trifluralin	770	-	-	35	67	
Other Parameters						
Polychlorinated Biphenyl (Total PCB)	33	230	45	1,100	770	
Dioxins and Furans (TEQ) (mg TEQ/kg)	0.000175	0.21	0.043	0.0026	0.0018	
Pentachlorophenol (PCP)	7500	280,000	280,000	7.6	7.6	
Organotins - Tributyltin	36	-	-	-	-	
Ethylene Glycol	110,000	-	-	60	68	
Propylene Glycol	-	-	-	-	-	
Phenol	150,000	2,100	2,100	3.8	3.8	

Notes:

[1] All values in mg/kg

[2] "-" = No guideline available or no guideline required; >RES means no soil criteria are shown as residual soil saturation limits may be exceeded; IACR means the Index of Additive Cancer Risk

[3] For the purposes of screening human health effects from exposure to sediment, dry weight values should be evaluated against the soil quality standards for Soil Contact/Ingestion only.

[4] Benzo(a)pyrene, BaP, Total Potency Equivalents are to be calculated following methodology shown in "Canadian Council of Ministers of the Environment, 2010 Canadian soil quality guidelines for the protection of environmental and human health: Carcinogenic and Other PAHs."

[5] Dioxins and Furans TEQ, Toxic Equivalents, are to be calculated following methodology shown in "Canadian Council of Ministers of the Environment, 2002. Canadian soil quality guidelines for the protection of environmental and human health: Dioxins and Furans"