

Table 1

Residential Ingestion-Dermal Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Carcinogenic Ingestion- Dermal Human Health-based Criterion	Non- carcinogenic Ingestion- Dermal Human Health-based Criterion	Soil Reporting Limit	Residential Ingestion- Dermal Soil Remediation Standard
Acenaphthene	83-32-9	NA	3,500	0.2	3,500
Acetone (2-Propanone)	67-64-1	NA	70,000	0.01	70,000
Acetophenone	98-86-2	NA	7,800	0.2	7,800
Aldrin	309-00-2	0.031	1.8	0.002	0.031
Aluminum (total)	7429-90-5	NA	78,000	20	78,000
Anthracene	120-12-7	NA	17,000	0.2	17,000
Antimony (total)	7440-36-0	NA	31	6	31
Arsenic (total)	7440-38-2	0.42	22	1	19 ¹
Atrazine	1912-24-9	NA	220	0.2	220
Barium (total)	7440-39-3	NA	16,000	20	16,000
Benzaldehyde	100-52-7	NA	7,800	0.2	7,800
Benzene	71-43-2	3.0	310	0.005	3.0
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.68	NA	0.2	0.68
Benzo(a)pyrene	50-32-8	0.068	NA	0.2	0.20 ²
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.68	NA	0.2	0.68
Benzo(k)fluoranthene	207-08-9	6.8	NA	0.2	6.8
Beryllium	7440-41-7	NA	160	0.5	160
1,1'-Biphenyl	92-52-4	NA	39,000	0.2	87
Bis(2-chloroethoxy)methane	111-91-1	NA	180	0.66	180
Bis(2-chloroethyl)ether	111-44-4	0.63	NA	0.2	0.63
Bis(2-ethylhexyl)phthalate	117-81-7	38	1,200	0.2	38
Bromodichloromethane (Dichlorobromomethane)	75-27-4	11	1,600	0.005	11
Bromoform	75-25-2	67	1,200	0.005	67
Bromomethane (Methyl bromide)	74-83-9	NA	110	0.005	110
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	47,000	0.01	47,000
Butylbenzyl phthalate	85-68-7	280	12,000	0.2	280
Cadmium	7440-43-9	NA	71	0.5	71
Caprolactam	105-60-2	NA	31,000	0.2	31,000
Carbon disulfide	75-15-0	NA	NA	0.5	NA
Carbon tetrachloride	56-23-5	7.6	310	0.005	7.6

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Chlordane (alpha and gamma forms summed)	57-74-9	0.27	35	0.002	0.27
4-Chloroaniline	106-47-8	2.7	250	1.3	2.7
Chlorobenzene	108-90-7	NA	510	0.005	510
Chloroethane (Ethyl chloride)	75-00-3	NA	NA	0.005	NA
Chloroform	67-66-3	NA	780	0.005	780
Chloromethane (Methyl chloride)	74-87-3	NA	NA	0.005	NA
2-Chloronaphthalene	91-58-7	NA	6,300	0.66	6,300
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA	390	0.2	390
Chrysene	218-01-9	68	NA	0.2	68
Cobalt (total)	7440-48-4	NA	23	5	23
Copper (total)	7440-50-8	NA	3,100	3	3,100
Cyanide	57-12-5	NA	47	3	47
Cyclohexane	110-82-7	NA	NA	0.005	NA
4,4'-DDD (p,p'-TDE)	72-54-8	2.2	NA	0.003	2.2
4,4'-DDE (p,p'-DDX)	72-55-9	1.6	NA	0.003	1.6
4,4'-DDT	50-29-3	1.9	36	0.003	1.9
Dibenz(a,h)anthracene	53-70-3	0.068	NA	0.2	0.20 ²
Dibromochloromethane (Chlorodibromomethane)	124-48-1	6.3	1200	0.005	6.3
1,2-Dibromo-3-chloropropane	96-12-8	0.87	16	0.005	0.87
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.35	700	0.005	0.35
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	6,700	0.005	6,700
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA	6,700	0.005	6,700
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	780	0.005	780
3,3'-Dichlorobenzidine	91-94-1	1.2	NA	0.2	1.2
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	16,000	0.005	16,000
1,1-Dichloroethane	75-34-3	120	16,000	0.005	120
1,2-Dichloroethane	107-06-2	5.8	NA	0.005	5.8
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	11	0.005	11
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	780	0.005	780
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	1,300	0.005	1,300

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2,4-Dichlorophenol	120-83-2	NA	180	0.2	180
1,2-Dichloropropane	78-87-5	19	7,000	0.005	19
1,3-Dichloropropene (total)	542-75-6	7.0	2,300	0.005	7.0
Dieldrin	60-57-1	0.033	3.1	0.003	0.033
Diethylphthalate	84-66-2	NA	49,000	0.2	49,000
2,4-Dimethylphenol	105-67-9	NA	1,200	0.2	1,200
Di-n-butyl phthalate	84-74-2	NA	6,200	0.2	6,200
2,4-Dinitrophenol	51-28-5	NA	120	0.3	120
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	0.78	NA	0.2	0.78
Di-n-octyl phthalate	117-84-0	NA	620	0.2	620
1,4-Dioxane	123-91-1	5.3	1,800	0.2	5.3
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA	370	0.003	370
Endrin	72-20-8	NA	18	0.003	18
Ethylbenzene	100-41-4	NA	7,800	0.005	7,800
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA	5,100 ³	80	5,100 ³
Extractable Petroleum Hydrocarbons (Other)	various	NA	Sample-specific ⁴	80	Sample-specific ⁴
Fluoranthene	206-44-0	NA	2,300	0.2	2,300
Fluorene	86-73-7	NA	2,300	0.2	2,300
alpha-HCH (alpha-BHC)	319-84-6	0.085	490	0.002	0.085
beta-HCH (beta-BHC)	319-85-7	0.30	NA	0.002	0.30
Heptachlor	76-44-8	0.12	31	0.002	0.12
Heptachlor epoxide	1024-57-3	0.059	0.8	0.002	0.059
Hexachlorobenzene	118-74-1	0.33	49	0.2	0.33
Hexachloro-1,3-butadiene	87-68-3	6.8	62	0.2	6.8
Hexachlorocyclopentadiene	77-47-4	NA	370	0.2	370
Hexachloroethane	67-72-1	13	43	0.2	13
n-Hexane	110-54-3	NA	4,700	-	4,700
2-Hexanone	591-78-6	NA	390	0.01	390
Indeno(1,2,3-cd)pyrene	193-39-5	0.68	NA	0.2	0.68
Isophorone	78-59-1	560	12,000	0.2	560
Isopropylbenzene	98-82-8	NA	7,800	0.005	7,800
Lead (total)	7439-92-1	NA	NA ⁵	1	400 ⁵
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	0.48	18	0.002	0.48

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Manganese (total)	7439-96-5	NA	1,900	2	1,900
Mercury (total)	7439-97-6	NA	23	0.1	23
Methoxychlor	72-43-5	NA	310	0.02	310
Methyl acetate	79-20-9	NA	78,000	0.005	78,000
Methylene chloride (Dichloromethane)	75-09-2	50	470	0.005	50
2-Methylnaphthalene	91-57-6	NA	230	0.17	230
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	6,300	0.01	6,300
2-Methylphenol (o-cresol)	95-48-7	NA	310	0.2	310
4-Methylphenol (p-cresol)	106-44-5	NA	620	0.2	620
Methyl tert-butyl ether (MTBE)	1634-04-4	NA	780	0.005	780
Naphthalene	91-20-3	NA	2,400	0.2	2,400
Nickel (total)	7440-02-0	NA	1,600	4	1,600
4-Nitroaniline	100-01-6	27	250	3.3	27
Nitrobenzene	98-95-3	NA	160	0.2	160
N-Nitrosodi-n-propylamine	621-64-7	0.076	NA	0.2	0.20 ²
N-Nitrosodiphenylamine	86-30-6	110	NA	0.2	110
2,2'-oxybis(1-chloropropane)	108-60-1	NA	3,100	0.2	3,100
Pentachlorophenol	87-86-5	0.99	230	0.3	0.99
Phenol	108-95-2	NA	18,000	0.2	18,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.24	NA	0.03	0.24
Pyrene	129-00-0	NA	1,700	0.2	1,700
Selenium (total)	7782-49-2	NA	390	4	390
Silver (total)	7440-22-4	NA	390	1	390
Styrene	100-42-5	NA	16,000	0.005	16,000
Tertiary butyl alcohol (TBA)	75-65-0	NA	1,400	0.1	1,400
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	18	0.17	18
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA	0.000051	0.000001	0.000051 ⁶
1,1,2,2-Tetrachloroethane	79-34-5	3.5	1,600	0.005	3.5
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	330	470	0.005	330
2,3,4,6-Tetrachlorophenol	58-90-2	NA	1,800	0.17	1,800
Toluene	108-88-3	NA	6,300	0.005	6,300
Toxaphene	8001-35-2	0.48	NA	0.2	0.48
1,2,4-Trichlorobenzene	120-82-1	NA	620	0.005	620
1,1,1-Trichloroethane	71-55-6	NA	160,000	0.005	160,000
1,1,2-Trichloroethane	79-00-5	12	310	0.005	12

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Trichloroethene (TCE) (Trichloroethylene)	79-01-6	15	39	0.005	15
Trichlorofluoromethane (Freon 11)	75-69-4	NA	23,000	0.005	23,000
2,4,5-Trichlorophenol	95-95-4	NA	6,200	0.2	6,200
2,4,6-Trichlorophenol	88-06-2	48	62	0.2	48
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA	0.005	NA
1,2,4-Trimethylbenzene	95-63-6	NA	NA	0.076	NA
Vanadium (total)	7440-62-2	NA	390	5	390
Vinyl chloride	75-01-4	0.97	230	0.005	0.97
Xylenes (total)	1330-20-7	NA	12,000	0.005	12,000
Zinc (total)	7440-66-6	NA	23,000	6	23,000

NA = Appropriate toxicological information not available

1 – Standard is based on natural background

2 – Standard set at soil reporting limit

3 – Special calculation for EPH – see Appendix 2

4 – Sample-specific calculation using EPH calculator – see Appendix 2

5 – Standard based on the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children

6 – This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs).

Table 2

Non-residential Ingestion-Dermal Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Carcinogenic Ingestion-Dermal Human Health-based Criterion	Non-carcinogenic Ingestion-Dermal Human Health-based Criterion	Soil Reporting Limit	Non-residential Ingestion-Dermal Soil Remediation Standard
Acenaphthene	83-32-9	NA	51,000	0.2	51,000
Acetone (2-Propanone)	67-64-1	NA	1,200,000	0.01	NA ¹
Acetophenone	98-86-2	NA	130,000	0.2	130,000
Aldrin	309-00-2	0.15	27	0.002	0.15
Aluminum (total)	7429-90-5	NA	1,300,000	20	NA ¹
Anthracene	120-12-7	NA	250,000	0.2	250,000
Antimony (total)	7440-36-0	NA	520	6	520
Arsenic (total)	7440-38-2	2.2	350	1	19 ²
Atrazine	1912-24-9	NA	3,200	0.2	3,200
Barium (total)	7440-39-3	NA	260,000	20	260,000
Benzaldehyde	100-52-7	NA	130,000	0.2	130,000
Benzene	71-43-2	16	5,200	0.005	16
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	3.2	NA	0.2	3.2
Benzo(a)pyrene	50-32-8	0.32	NA	0.2	0.32
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	3.2	NA	0.2	3.2
Benzo(k)fluoranthene	207-08-9	32	NA	0.2	32
Beryllium	7440-41-7	NA	2,600	0.5	2,600
1,1'-Biphenyl	92-52-4	450	650,000	0.2	450
Bis(2-chloroethoxy)methane	111-91-1	NA	2,700	0.66	2,700
Bis(2-chloroethyl)ether	111-44-4	3.3	NA	0.2	3.3
Bis(2-ethylhexyl)phthalate	117-81-7	180	18,000	0.2	180
Bromodichloromethane (Dichlorobromomethane)	75-27-4	59	26,000	0.005	59
Bromoform	75-25-2	320	18,000	0.005	320
Bromomethane (Methyl bromide)	74-83-9	NA	1,800	0.005	1,800
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	780,000	0.01	780,000
Butylbenzyl phthalate	85-68-7	1,400	180,000	0.2	1,400
Cadmium	7440-43-9	NA	1,100	0.5	1,100
Caprolactam	105-60-2	NA	460,000	0.2	460,000
Carbon disulfide	75-15-0	NA	NA	0.5	NA
Carbon tetrachloride	56-23-5	40	5,200	0.005	40

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Chlordane (alpha and gamma forms summed)	57-74-9	1.4	560	0.002	1.4
4-Chloroaniline	106-47-8	13	3,700	1.3	13
Chlorobenzene	108-90-7	NA	8,400	0.005	8,400
Chloroethane (Ethyl chloride)	75-00-3	NA	NA	0.005	NA
Chloroform	67-66-3	NA	13,000	0.005	13,000
Chloromethane (Methyl chloride)	74-87-3	NA	NA	0.005	NA
2-Chloronaphthalene	91-58-7	NA	100,000	0.66	100,000
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA	6,500	0.2	6,500
Chrysene	218-01-9	320	NA	0.2	320
Cobalt (total)	7440-48-4	NA	390	5	390
Copper (total)	7440-50-8	NA	52,000	3	52,000
Cyanide	57-12-5	NA	780	3	780
Cyclohexane	110-82-7	NA	NA	0.005	NA
4,4'-DDD (p,p'-TDE)	72-54-8	11	NA	0.003	11
4,4'-DDE (p,p'-DDX)	72-55-9	7.5	NA	0.003	7.5
4,4'-DDT	50-29-3	9.5	580	0.003	9.5
Dibenz(a,h)anthracene	53-70-3	0.32	NA	0.2	0.32
Dibromochloromethane (Chlorodibromomethane)	124-48-1	31	18,000	0.005	31
1,2-Dibromo-3-chloropropane	96-12-8	4.5	260	0.005	4.5
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	1.8	12,000	0.005	1.8
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	110,000	0.005	110,000
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA	110,000	0.005	110,000
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	13,000	0.005	13,000
3,3'-Dichlorobenzidine	91-94-1	5.7	NA	0.2	5.7
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	260,000	0.005	260,000
1,1-Dichloroethane	75-34-3	640	260,000	0.005	640
1,2-Dichloroethane	107-06-2	30	NA	0.005	30
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	180	0.005	180
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA	13,000	0.005	13,000
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA	22,000	0.005	22,000

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2,4-Dichlorophenol	120-83-2	NA	2,700	0.2	2,700
1,2-Dichloropropane	78-87-5	100	120,000	0.005	100
1,3-Dichloropropene (total)	542-75-6	36	39,000	0.005	36
Dieldrin	60-57-1	0.16	46	0.003	0.16
Diethylphthalate	84-66-2	NA	730,000	0.2	730,000
2,4-Dimethylphenol	105-67-9	NA	18,000	0.2	18,000
Di-n-butyl phthalate	84-74-2	NA	92,000	0.2	92,000
2,4-Dinitrophenol	51-28-5	NA	1,800	0.3	1,800
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	3.8	NA	0.2	3.8
Di-n-octyl phthalate	117-84-0	NA	9,200	0.2	9,200
1,4-Dioxane	123-91-1	26	27,000	0.2	26
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA	5,500	0.003	5,500
Endrin	72-20-8	NA	270	0.003	270
Ethylbenzene	100-41-4	NA	130,000	0.005	130,000
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA	75,000 ³	80	75,000 ³
Extractable Petroleum Hydrocarbons (Other)	various	NA	Sample-specific ⁴	80	Sample-specific ⁴
Fluoranthene	206-44-0	NA	34,000	0.2	34,000
Fluorene	86-73-7	NA	34,000	0.2	34,000
alpha-HCH (alpha-BHC)	319-84-6	0.41	7,300	0.002	0.41
beta-HCH (beta-BHC)	319-85-7	1.4	NA	0.002	1.4
Heptachlor	76-44-8	0.57	460	0.002	0.57
Heptachlor epoxide	1024-57-3	0.28	12	0.002	0.28
Hexachlorobenzene	118-74-1	1.6	730	0.2	1.6
Hexachloro-1,3-butadiene	87-68-3	33	920	0.2	33
Hexachlorocyclopentadiene	77-47-4	NA	5,500	0.2	5,500
Hexachloroethane	67-72-1	64	640	0.2	64
n-Hexane	110-54-3	NA	78,000	-	78,000
2-Hexanone	591-78-6	NA	6,500	0.01	6,500
Indeno(1,2,3-cd)pyrene	193-39-5	3.2	NA	0.2	3.2
Isophorone	78-59-1	2,700	180,000	0.2	2,700
Isopropylbenzene	98-82-8	NA	130,000	0.005	130,000
Lead (total)	7439-92-1	NA	NA	1	800 ⁵
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	2.3	270	0.002	2.3

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Manganese (total)	7439-96-5	NA	31,000	2	31,000
Mercury (total)	7439-97-6	NA	390	0.1	390
Methoxychlor	72-43-5	NA	4,600	0.02	4,600
Methyl acetate	79-20-9	NA	1,300,000	0.005	NA ¹
Methylene chloride (Dichloromethane)	75-09-2	260	7,800	0.005	260
2-Methylnaphthalene	91-57-6	NA	3400	0.17	3400
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	100,000	0.01	100,000
2-Methylphenol (o-cresol)	95-48-7	NA	4,600	0.2	4,600
4-Methylphenol (p-cresol)	106-44-5	NA	9,200	0.2	9,200
Methyl tert-butyl ether (MTBE)	1634-04-4	NA	13,000	0.005	13,000
Naphthalene	91-20-3	NA	35,000	0.2	35,000
Nickel (total)	7440-02-0	NA	26,000	4	26,000
4-Nitroaniline	100-01-6	130	3,700	3.3	130
Nitrobenzene	98-95-3	NA	2,600	0.2	2,600
N-Nitrosodi-n-propylamine	621-64-7	0.37	NA	0.2	0.37
N-Nitrosodiphenylamine	86-30-6	520	NA	0.2	520
2,2'-oxybis(1-chloropropane)	108-60-1	NA	52,000	0.2	52,000
Pentachlorophenol	87-86-5	4.5	3,200	0.3	4.5
Phenol	108-95-2	NA	270,000	0.2	270,000
Polychlorinated biphenyls (PCBs)	1336-36-3	1.1	NA	0.03	1.1
Pyrene	129-00-0	NA	25,000	0.2	25,000
Selenium (total)	7782-49-2	NA	6,500	4	6,500
Silver (total)	7440-22-4	NA	6,500	1	6,500
Styrene	100-42-5	NA	260,000	0.005	260,000
Tertiary butyl alcohol (TBA)	75-65-0	NA	23,000	0.1	23,000
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	270	0.17	270
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA	0.00081	0.000001	0.00081 ⁶
1,1,2,2-Tetrachloroethane	79-34-5	18	26,000	0.005	18
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	1,700	7,800	0.005	1,700
2,3,4,6-Tetrachlorophenol	58-90-2	NA	27,000	0.17	27,000
Toluene	108-88-3	NA	100,000	0.005	100,000
Toxaphene	8001-35-2	2.3	NA	0.2	2.3
1,2,4-Trichlorobenzene	120-82-1	NA	9,200	0.005	9,200
1,1,1-Trichloroethane	71-55-6	NA	2,600,000	0.005	NA ¹
1,1,2-Trichloroethane	79-00-5	64	5,200	0.005	64

Contaminant	CAS No.	Carcinogenic Ingestion-Dermal Human Health-based Criterion	Non-carcinogenic Ingestion-Dermal Human Health-based Criterion	Soil Reporting Limit	Non-residential Ingestion-Dermal Soil Remediation Standard
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	79	650	0.005	79
Trichlorofluoromethane (Freon 11)	75-69-4	NA	390,000	0.005	390,000
2,4,5-Trichlorophenol	95-95-4	NA	92,000	0.2	92,000
2,4,6-Trichlorophenol	88-06-2	230	920	0.2	230
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA	0.005	NA
1,2,4-Trimethylbenzene	95-63-6	NA	NA	0.076	NA
Vanadium (total)	7440-62-2	NA	6,500	5	6,500
Vinyl chloride	75-01-4	5.0	3,900	0.005	5.0
Xylenes (total)	1330-20-7	NA	190,000	0.005	190,000
Zinc (total)	7440-66-6	NA	390,000	6	390,000

NA = Appropriate toxicological information not available or standard not applicable

1 – Standard not applicable because health-based criterion exceeds one million mg/kg

2 – Standard is based on natural background

3 – Special calculation for EPH– see Appendix 2

4 – Sample-specific calculation using EPH calculator – see Appendix 2

5 – Standard based on the Adult Lead Model (ALM)

6 – This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor

Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs).

Table 3

Residential Inhalation Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Carcinogenic Inhalation Human Health-based Criterion	Non- carcinogenic Inhalation Human Health-based Criterion	Soil saturation concentration	Soil Reporting Limit	Residential Inhalation Soil Remediation Standard
Acenaphthene	83-32-9	NA ¹	NA ¹	40	0.2	NA ¹
Acetone (2-Propanone)	67-64-1	NA ¹	NA ¹	160,000	0.01	NA ¹
Acetophenone	98-86-2	NA ¹	NA ¹	1,600	0.2	NA ¹
Aldrin	309-00-2	NA ¹	NA ¹	2.8	0.002	NA ¹
Aluminum (total)	7429-90-5	NA ¹	NA ²	NA	20	NA ^{1,2}
Anthracene	120-12-7	NA ¹	NA ¹	1.4	0.2	NA ¹
Antimony (total)	7440-36-0	NA ¹	NA ¹	NA	6	NA ¹
Arsenic (total)	7440-38-2	1100	NA ¹	NA	1	1,100
Atrazine	1912-24-9	NA ¹	NA ¹	21	0.2	NA ¹
Barium (total)	7440-39-3	NA ¹	870,000	NA	20	870,000
Benzaldehyde	100-52-7	NA ¹	NA ¹	1200	0.2	NA ¹
Benzene	71-43-2	2.2	190	850	0.005	2.2
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	43,000 ⁴	NA ¹	3.3	0.2	43,000 ⁴
Benzo(a)pyrene	50-32-8	4,300 ⁴	NA ¹	1.9	0.2	4,300 ⁴
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	43,000 ⁴	NA ¹	1.8	0.2	43,000 ⁴
Benzo(k)fluoranthene	207-08-9	43,000 ⁴	NA ¹	0.94	0.2	43,000 ⁴
Beryllium	7440-41-7	2,000	35,000	NA	0.5	2,000
1,1'-Biphenyl	92-52-4	NA ¹	NA ¹	72	0.2	NA ¹
Bis(2-chloroethoxy)methane	111-91-1	NA ¹	NA ¹	1,400	0.66	NA ¹
Bis(2-chloroethyl)ether	111-44-4	NA ¹	NA ¹	3,700	0.2	NA ¹
Bis(2-ethylhexyl)phthalate	117-81-7	NA ¹	NA ¹	65	0.2	NA ¹
Bromodichloromethane (Dichlorobromomethane)	75-27-4	NA ¹	NA ¹	690	0.005	NA ¹
Bromoform	75-25-2	NA ¹	NA ¹	680	0.005	NA ¹
Bromomethane (Methyl bromide)	74-83-9	NA ¹	18	3,300	0.005	18
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA ¹	NA ^{2,3}	36,000	0.01	NA ^{1,2,3}
Butylbenzyl phthalate	85-68-7	NA ¹	NA ³	39	0.2	NA ^{1,3}
Cadmium	7440-43-9	2,600	17,000	NA	0.5	2,600
Caprolactam	105-60-2	NA ¹	290	160,000	0.2	290
Carbon disulfide	75-15-0	NA ¹	NA ³	580	0.5	NA ^{1,3}
Carbon tetrachloride	56-23-5	1.4	NA ³	300	0.005	1.4
Chlordane (alpha and gamma forms summed)	57-74-9	NA ¹	NA ³	7.6	0.002	NA ^{1,3}

4-Chloroaniline	106-47-8	NA ¹	NA ¹	1,500	1.3	NA ¹
Chlorobenzene	108-90-7	NA ¹	NA ³	320	0.005	NA ^{1,3}
Chloroethane (Ethyl chloride)	75-00-3	NA ¹	NA ³	1,700	0.005	NA ^{1,3}
Chloroform	67-66-3	NA ¹	590	1,900	0.005	590
Chloromethane (Methyl chloride)	74-87-3	NA ¹	270	1,200	0.005	270
2-Chloronaphthalene	91-58-7	NA ¹	NA ¹	60	0.66	NA ¹
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA ¹	NA ¹	11,000	0.2	NA ¹
Chrysene	218-01-9	430,000 ⁴	NA ¹	0.72	0.2	430,000 ⁴
Cobalt (total)	7440-48-4	520	10,000	NA	5	520
Copper (total)	7440-50-8	NA ¹	NA ¹	NA	3	NA ¹
Cyanide	57-12-5	NA ¹	NA ²	NA	3	NA ^{1,2}
Cyclohexane	110-82-7	NA ¹	NA ^{2,3}	65	0.005	NA ^{1,2,3}
4,4'-DDD (p,p'-TDE)	72-54-8	NA ¹	NA ¹	21	0.003	NA ¹
4,4'-DDE (p,p'-DDX)	72-55-9	NA ¹	NA ¹	9.4	0.003	NA ¹
4,4'-DDT	50-29-3	NA ¹	NA ¹	1.9	0.003	NA ¹
Dibenz(a,h)anthracene	53-70-3	3,900 ⁴	NA ¹	9.5	0.2	3,900 ⁴
Dibromochloromethane (Chlorodibromomethane)	124-48-1	NA ¹	NA ¹	600	0.005	NA ¹
1,2-Dibromo-3-chloropropane	96-12-8	0.026	11	470	0.005	0.026
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.085	170	920	0.005	0.085
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA ¹	NA ³	140	0.005	NA ^{1,3}
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA ¹	NA ¹	110	0.005	NA ¹
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA ¹	NA ³	74	0.005	NA ^{1,3}
3,3'-Dichlorobenzidine	91-94-1	NA ¹	NA ¹	20	0.2	NA ¹
Dichlorodifluoromethane (Freon 12)	75-71-8	NA ¹	NA ¹	540	0.005	NA ¹
1,1-Dichloroethane	75-34-3	NA ¹	NA ¹	1,200	0.005	NA ¹
1,2-Dichloroethane	107-06-2	NA ¹	71	2,000	0.005	71
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA ¹	52	830	0.005	52
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA ¹	NA ¹	1,600	0.005	NA ¹
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA ¹	NA ¹	1,100	0.005	NA ¹
2,4-Dichlorophenol	120-83-2	NA ¹	NA ¹	2,100	0.2	NA ¹
1,2-Dichloropropane	78-87-5	NA ¹	31	810	0.005	31
1,3-Dichloropropene (total)	542-75-6	4.8	140	880	0.005	4.8
Dieldrin	60-57-1	NA ¹	NA ¹	7.9	0.003	NA ¹
Diethylphthalate	84-66-2	NA ¹	NA ¹	390	0.2	NA ¹
2,4-Dimethylphenol	105-67-9	NA ¹	NA ¹	8,900	0.2	NA ¹
Di-n-butyl phthalate	84-74-2	NA ¹	NA ¹	28	0.2	NA ¹

2,4-Dinitrophenol	51-28-5	NA ¹	NA ¹	430	0.3	NA ¹
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	NA ¹	NA ¹	360	0.2	NA ¹
Di-n-octyl phthalate	117-84-0	NA ¹	NA ¹	6.2	0.2	NA ¹
1,4-Dioxane	123-91-1	45	2,500	160,000	0.2	45
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA ¹	NA ¹	4.4	0.003	NA ¹
Endrin	72-20-8	NA ¹	NA ¹	10	0.003	NA ¹
Ethylbenzene	100-41-4	10	NA ³	180	0.005	10
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA ¹	NA ¹	NA	80	NA ¹
Extractable Petroleum Hydrocarbons (Other)	various	NA ¹	NA ¹	NA	80	NA ¹
Fluoranthene	206-44-0	NA ¹	NA ¹	29	0.2	NA ¹
Fluorene	86-73-7	NA ¹	NA ¹	31	0.2	NA
alpha-HCH (alpha-BHC)	319-84-6	NA ¹	NA ¹	12	0.002	NA ¹
beta-HCH (beta-BHC)	319-85-7	NA ¹	NA ¹	1.4	0.002	NA ¹
Heptachlor	76-44-8	NA ¹	NA ¹	15	0.002	NA ¹
Heptachlor epoxide	1024-57-3	NA ¹	NA ¹	4.1	0.002	NA ¹
Hexachlorobenzene	118-74-1	NA ¹	NA ¹	0.078	0.2	NA ¹
Hexachloro-1,3-butadiene	87-68-3	NA ¹	NA ¹	6.1	0.2	NA ¹
Hexachlorocyclopentadiene	77-47-4	NA ¹	2.7	5.6	0.2	2.7
Hexachloroethane	67-72-1	NA ¹	NA ³	28	0.2	NA ^{1,3}
n-Hexane	110-54-3	NA ¹	NA ³	88	0	NA ^{1,3}
2-Hexanone	591-78-6	NA ¹	1,000	3200	0.01	1,000
Indeno(1,2,3-cd)pyrene	193-39-5	43,000 ⁴	NA ¹	0.086	0.2	43,000 ⁴
Isophorone	78-59-1	NA ¹	NA ³	3,400	0.2	NA ^{1,3}
Isopropylbenzene	98-82-8	NA ¹	NA ³	95	0.005	NA ^{1,3}
Lead (total)	7439-92-1	NA ¹	NA ¹	NA	1	400 ⁵
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	NA ¹	NA ¹	42	0.002	NA ¹
Manganese (total)	7439-96-5	NA ¹	87,000	NA	2	87,000
Mercury (total)	7439-97-6	NA ¹	520,000	3.1	0.1	520,000
Methoxychlor	72-43-5	NA ¹	NA ¹	5.4	0.02	NA ¹
Methyl acetate	79-20-9	NA ¹	NA ¹	39,000	0.005	NA ¹
Methylene chloride (Dichloromethane)	75-09-2	1,400	NA ³	2,800	0.005	1,400
2-Methylnaphthalene	91-57-6	NA ¹	NA ¹	130	0.17	NA ¹
4-Methyl-2-pentanone (MIBK)	108-10-1	NA ¹	NA ³	3,400	0.01	NA ^{1,3}
2-Methylphenol (o-cresol)	95-48-7	NA ¹	NA ¹	20,000	0.2	NA ¹
4-Methylphenol (p-cresol)	106-44-5	NA ¹	NA ¹	16,000	0.2	NA ¹
Methyl tert-butyl ether (MTBE)	1634-04-4	140	NA ³	9,100	0.005	140
Naphthalene	91-20-3	5.7	NA ³	100	0.2	5.7
Nickel (total)	7440-02-0	20,000	24,000	NA	4	20,000

4-Nitroaniline	100-01-6	NA ¹	NA ³	270	3.3	NA ^{1,3}
Nitrobenzene	98-95-3	7.5	1,000	1,300	0.2	7.5
N-Nitrosodi-n-propylamine	621-64-7	NA ¹	NA ¹	9,200	0.2	NA ¹
N-Nitrosodiphenylamine	86-30-6	NA ¹	NA ¹	190	0.2	NA ¹
2,2'-oxybis(1-chloropropane)	108-60-1	NA ¹	NA ¹	540	0.2	NA ¹
Pentachlorophenol	87-86-5	NA ¹	NA ¹	140	0.3	NA ¹
Phenol	108-95-2	NA ¹	39,000	44,000	0.2	39,000
Polychlorinated biphenyls (PCBs)	1336-36-3	NA ¹	NA ¹	110	0.03	NA ¹
Pyrene	129-00-0	NA ¹	NA ¹	15	0.2	NA ¹
Selenium (total)	7782-49-2	NA ¹	NA ¹	NA	4	NA ¹
Silver (total)	7440-22-4	NA ¹	NA ¹	NA	1	NA ¹
Styrene	100-42-5	NA ¹	NA ³	330	0.005	NA ^{1,3}
Tertiary butyl alcohol (TBA)	75-65-0	NA ¹	NA ¹	160,000	0.1	NA ¹
1,2,4,5-Tetrachlorobenzene	95-94-3	NA ¹	NA ¹	2.7	0.17	NA ¹
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA ¹	NA ¹	0.10	0.000001	NA ¹
1,1,2,2-Tetrachloroethane	79-34-5	NA ¹	NA ¹	980	0.005	NA ¹
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	47	NA ³	89	0.005	47
2,3,4,6-Tetrachlorophenol	58-90-2	NA ¹	NA ¹	140	0.17	NA ¹
Toluene	108-88-3	NA ¹	NA ³	340	0.005	NA ^{1,3}
Toxaphene	8001-35-2	NA ¹	NA ¹	110	0.2	NA ¹
1,2,4-Trichlorobenzene	120-82-1	NA ¹	94	140	0.005	94
1,1,1-Trichloroethane	71-55-6	NA ¹	NA ³	420	0.005	NA ^{1,3}
1,1,2-Trichloroethane	79-00-5	NA ¹	NA ¹	1,300	0.005	NA ¹
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	3.0	9.1	410	0.005	3.0
Trichlorofluoromethane (Freon 11)	75-69-4	NA ¹	NA ¹	790	0.005	NA ¹
2,4,5-Trichlorophenol	95-95-4	NA ¹	NA ¹	5,800	0.2	NA ¹
2,4,6-Trichlorophenol	88-06-2	NA ¹	NA ¹	1,700	0.2	NA ¹
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA ¹	NA ³	530	0.0050	NA ^{1,3}
1,2,4-Trimethylbenzene	95-63-6	NA ¹	NA ³	80	0.076	NA ^{1,3}
Vandium (total)	7440-62-2	NA ¹	170,000	NA	5.0	170,000
Vinyl chloride	75-01-4	1.4	220	2,900	0.0050	1.4
Xylenes (total)	1330-20-7	NA ¹	NA ³	100	0.0050	NA ^{1,3}
Zinc (total)	7440-66-6	NA ¹	NA ¹	NA	6.0	NA ¹

NA = Not available/applicable

1 – Appropriate toxicological information not available

2 – Health-based criterion exceeds one million parts per million

3 – Exceeds soil saturation limit

4 – Exceeds soil saturation limit; however, human health-based criterion based on particulate portion of the equation

5 – Standard based on the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children

Table 4

Non-residential Inhalation Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Carcinogenic Inhalation Human Health-based Criterion	Non- carcinogenic Inhalation Human Health-based Criterion	Soil saturation concentration	Soil Reporting Limit	Non- Residential Inhalation Soil Remediation Standard
Acenaphthene	83-32-9	NA ¹	NA ¹	40	0.2	NA ¹
Acetone (2-Propanone)	67-64-1	NA ¹	NA ¹	160,000	0.01	NA ¹
Acetophenone	98-86-2	NA ¹	NA ¹	1,600	0.2	NA ¹
Aldrin	309-00-2	NA ¹	NA ¹	2.8	0.002	NA ¹
Aluminum (total)	7429-90-5	NA ¹	NA ²	NA	20	NA ^{1,2}
Anthracene	120-12-7	NA ¹	NA ¹	1.4	0.2	NA ¹
Antimony (total)	7440-36-0	NA ¹	NA ¹	NA	6	NA ¹
Arsenic (total)	7440-38-2	5,200	NA ¹	NA	1	5,200
Atrazine	1912-24-9	NA ¹	NA ¹	21	0.2	NA ¹
Barium (total)	7440-39-3	NA ¹	NA ²	NA	20	NA ^{1,2}
Benzaldehyde	100-52-7	NA ¹	NA ¹	1,200	0.2	NA ¹
Benzene	71-43-2	11	NA ^{2,3}	850	0.005	11
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	200,000 ⁴	NA ¹	3.3	0.2	200,000 ⁴
Benzo(a)pyrene	50-32-8	20,000 ⁴	NA ¹	1.9	0.2	20,000 ⁴
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	200,000 ⁴	NA ¹	1.8	0.2	200,000 ⁴
Benzo(k)fluoranthene	207-08-9	200,000 ⁴	NA ¹	0.94	0.2	200,000 ⁴
Beryllium	7440-41-7	9,300	160,000	NA	0.5	9,300
1,1'-Biphenyl	92-52-4	NA ¹	NA ¹	72	0.2	NA ¹
Bis(2-chloroethoxy)methane	111-91-1	NA ¹	NA ¹	1,400	0.66	NA ¹
Bis(2-chloroethyl)ether	111-44-4	NA ¹	NA ¹	3,700	0.2	NA ¹
Bis(2-ethylhexyl)phthalate	117-81-7	NA ¹	NA ¹	65	0.2	NA ¹
Bromodichloromethane (Dichlorobromomethane)	75-27-4	NA ¹	NA ¹	690	0.005	NA ¹
Bromoform	75-25-2	NA ¹	NA ¹	680	0.005	NA ¹
Bromomethane (Methyl bromide)	74-83-9	NA ¹	82	3,300	0.005	82
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA ¹	NA ^{2,3}	36,000	0.01	NA ^{1,2,3}
Butylbenzyl phthalate	85-68-7	NA ¹	NA ¹	39	0.2	NA ¹
Cadmium	7440-43-9	12,000	80,000	NA	0.5	12,000
Caprolactam	105-60-2	NA ¹	1,300	160,000	0.2	1,300
Carbon disulfide	75-15-0	NA ¹	NA ^{2,3}	580	0.5	NA ^{1,2,3}
Carbon tetrachloride	56-23-5	6.9	NA ^{2,3}	300	0.005	6.9
Chlordane (alpha and gamma forms summed)	57-74-9	NA ¹	NA ^{2,3}	7.6	0.002	NA ^{1,2,3}

4-Chloroaniline	106-47-8	NA ¹	NA ¹	1,500	1.3	NA ¹
Chlorobenzene	108-90-7	NA ¹	NA ^{2,3}	320	0.005	NA ^{1,2,3}
Chloroethane (Ethyl chloride)	75-00-3	NA ¹	NA ^{2,3}	1,700	0.005	NA ^{1,2,3}
Chloroform	67-66-3	NA ¹	NA ^{2,3}	1,900	0.005	NA ^{1,2,3}
Chloromethane (Methyl chloride)	74-87-3	NA ¹	1,200	1,200	0.005	1,200
2-Chloronaphthalene	91-58-7	NA ¹	NA ¹	60	0.66	NA ¹
2-Chlorophenol (o-Chlorophenol)	95-57-8	NA ¹	NA ¹	11,000	0.2	NA ¹
Chrysene	218-01-9	NA ^{2,3}	NA ¹	0.72	0.2	NA ^{1,2,3}
Cobalt (total)	7440-48-4	2,500	48,000	NA	5	2,500
Copper (total)	7440-50-8	NA ¹	NA ¹	NA	3	NA ¹
Cyanide	57-12-5	NA ¹	NA ²	NA	3	NA ^{1,2}
Cyclohexane	110-82-7	NA ¹	NA ^{2,3}	65	0.005	NA ^{1,2,3}
4,4'-DDD (p,p'-TDE)	72-54-8	NA ¹	NA ¹	21	0.003	NA ¹
4,4'-DDE (p,p'-DDX)	72-55-9	NA ¹	NA ¹	9.4	0.003	NA ¹
4,4'-DDT	50-29-3	NA ¹	NA ¹	1.9	0.003	NA ¹
Dibenz(a,h)anthracene	53-70-3	19,000 ⁴	NA ¹	9.5	0.2	19,000 ⁴
Dibromochloromethane (Chlorodibromomethane)	124-48-1	NA ¹	NA ¹	600	0.005	NA ¹
1,2-Dibromo-3-chloropropane	96-12-8	0.12	52	470	0.005	0.12
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.41	780	920	0.005	0.41
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA ¹	NA ^{2,3}	140	0.005	NA ^{1,2,3}
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	NA ¹	NA ¹	110	0.005	NA ¹
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA ¹	NA ^{2,3}	74	0.005	NA ^{1,2,3}
3,3'-Dichlorobenzidine	91-94-1	NA ¹	NA ¹	20	0.2	NA ¹
Dichlorodifluoromethane (Freon 12)	75-71-8	NA ¹	NA ¹	540	0.005	NA ¹
1,1-Dichloroethane	75-34-3	NA ¹	NA ¹	1,200	0.005	NA ¹
1,2-Dichloroethane	107-06-2	NA ¹	320	2,000	0.005	320
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA ¹	240	830	0.005	240
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	NA ¹	NA ¹	1,600	0.005	NA ¹
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	NA ¹	NA ¹	1,100	0.005	NA ¹
2,4-Dichlorophenol	120-83-2	NA ¹	NA ¹	2,100	0.2	NA ¹
1,2-Dichloropropane	78-87-5	NA ¹	140	810	0.005	140
1,3-Dichloropropene (total)	542-75-6	23	650	880	0.005	23
Dieldrin	60-57-1	NA ¹	NA ¹	7.9	0.003	NA ¹
Diethylphthalate	84-66-2	NA ¹	NA ¹	390	0.2	NA ¹
2,4-Dimethylphenol	105-67-9	NA ¹	NA ¹	8,900	0.2	NA ¹
Di-n-butyl phthalate	84-74-2	NA ¹	NA ¹	28	0.2	NA ¹

2,4-Dinitrophenol	51-28-5	NA ¹	NA ¹	430	0.3	NA ¹
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	NA ¹	NA ¹	360	0.2	NA ¹
Di-n-octyl phthalate	117-84-0	NA ¹	NA ¹	6.2	0.2	NA ¹
1,4-Dioxane	123-91-1	210	11,000	160,000	0.2	210
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	NA ¹	NA ¹	4.4	0.003	NA ¹
Endrin	72-20-8	NA ¹	NA ¹	10	0.003	NA ¹
Ethylbenzene	100-41-4	48	NA ^{2,3}	180	0.005	48
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA ¹	NA ¹	NA	80	NA ¹
Extractable Petroleum Hydrocarbons (Other)	various	NA ¹	NA ¹	NA	80	NA ¹
Fluoranthene	206-44-0	NA ¹	NA ¹	29	0.2	NA ¹
Fluorene	86-73-7	NA ¹	NA ¹	31	0.2	NA ¹
alpha-HCH (alpha-BHC)	319-84-6	NA ¹	NA ¹	12	0.002	NA ¹
beta-HCH (beta-BHC)	319-85-7	NA ¹	NA ¹	1.4	0.002	NA ¹
Heptachlor	76-44-8	NA ¹	NA ¹	15	0.002	NA ¹
Heptachlor epoxide	1024-57-3	NA ¹	NA ¹	4.1	0.002	NA ¹
Hexachlorobenzene	118-74-1	NA ¹	NA ¹	0.078	0.2	NA ¹
Hexachloro-1,3-butadiene	87-68-3	NA ¹	NA ¹	6.1	0.2	NA ¹
Hexachlorocyclopentadiene	77-47-4	NA ¹	NA ^{2,3}	5.6	0.2	NA ^{1,2,3}
Hexachloroethane	67-72-1	NA ¹	NA ^{2,3}	28	0.2	NA ^{1,2,3}
n-Hexane	110-54-3	NA ¹	NA ^{2,3}	88	0	NA ^{1,2,3}
2-Hexanone	591-78-6	NA ¹	NA ^{2,3}	3,200	0.01	NA ^{1,2,3}
Indeno(1,2,3-cd)pyrene	193-39-5	200,000 ⁴	NA ¹	0.086	0.2	200,000 ⁴
Isophorone	78-59-1	NA ¹	NA ^{2,3}	3,400	0.2	NA ^{1,2,3}
Isopropylbenzene	98-82-8	NA ¹	NA ^{2,3}	95	0.005	NA ^{1,2,3}
Lead (total)	7439-92-1	NA ¹	NA ¹	NA	1	800 ⁵
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	NA ¹	NA ¹	42	0.002	NA ¹
Manganese (total)	7439-96-5	NA ¹	400,000	NA	2	400,000
Mercury (total)	7439-97-6	NA ¹	NA ^{2,3}	3.1	0.1	NA ^{1,2,3}
Methoxychlor	72-43-5	NA ¹	NA ¹	5.4	0.02	NA ¹
Methyl acetate	79-20-9	NA ¹	NA ¹	39,000	0.005	NA ¹
Methylene chloride (Dichloromethane)	75-09-2	NA ^{2,3}	NA ^{2,3}	2,800	0.005	NA ^{2,3}
2-Methylnaphthalene	91-57-6	NA ¹	NA ¹	130	0.17	NA ¹
4-Methyl-2-pentanone (MIBK)	108-10-1	NA ¹	NA ^{2,3}	3,400	0.01	NA ^{1,2,3}
2-Methylphenol (o-cresol)	95-48-7	NA ¹	NA ¹	20,000	0.2	NA ¹
4-Methylphenol (p-cresol)	106-44-5	NA ¹	NA ¹	16,000	0.2	NA ¹
Methyl tert-butyl ether (MTBE)	1634-04-4	650	NA ^{2,3}	9,100	0.005	650
Naphthalene	91-20-3	27	NA ^{2,3}	100	0.2	27
Nickel (total)	7440-02-0	93,000	110,000	NA	4	93,000

4-Nitroaniline	100-01-6	NA ¹	NA ^{2,3}	270	3.3	NA ^{1,2,3}
Nitrobenzene	98-95-3	36	NA ^{2,3}	1,300	0.2	36
N-Nitrosodi-n-propylamine	621-64-7	NA ¹	NA ¹	9,200	0.2	NA ¹
N-Nitrosodiphenylamine	86-30-6	NA ¹	NA ¹	190	0.2	NA ¹
2,2'-oxybis(1-chloropropane)	108-60-1	NA ¹	NA ¹	540	0.2	NA ¹
Pentachlorophenol	87-86-5	NA ¹	NA ¹	140	0.3	NA ¹
Phenol	108-95-2	NA ¹	NA ^{2,3}	44,000	0.2	NA ^{1,2,3}
Polychlorinated biphenyls (PCBs)	1336-36-3	NA ¹	NA ¹	110	0.03	NA ¹
Pyrene	129-00-0	NA ¹	NA ¹	15	0.2	NA ¹
Selenium (total)	7782-49-2	NA ¹	NA ¹	NA	4	NA ¹
Silver (total)	7440-22-4	NA ¹	NA ¹	NA	1	NA ¹
Styrene	100-42-5	NA ¹	NA ^{2,3}	330	0.005	NA ^{1,2,3}
Tertiary butyl alcohol (TBA)	75-65-0	NA ¹	NA ¹	160,000	0.1	NA ¹
1,2,4,5-Tetrachlorobenzene	95-94-3	NA ¹	NA ¹	2.7	0.17	NA ¹
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	NA ¹	NA ¹	0.10	0.000001	NA ¹
1,1,2,2-Tetrachloroethane	79-34-5	NA ¹	NA ¹	980	0.005	NA ¹
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	NA ^{2,3}	NA ^{2,3}	89	0.005	NA ^{2,3}
2,3,4,6-Tetrachlorophenol	58-90-2	NA ¹	NA ¹	140	0.17	NA ¹
Toluene	108-88-3	NA ¹	NA ^{2,3}	340	0.005	NA ^{1,2,3}
Toxaphene	8001-35-2	NA ¹	NA ¹	110	0.2	NA ¹
1,2,4-Trichlorobenzene	120-82-1	NA ¹	NA ^{2,3}	140	0.005	NA ^{1,2,3}
1,1,1-Trichloroethane	71-55-6	NA ¹	NA ^{2,3}	420	0.005	NA ^{1,2,3}
1,1,2-Trichloroethane	79-00-5	NA ¹	NA ¹	1,300	0.005	NA ¹
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	14	42	410	0.005	14
Trichlorofluoromethane (Freon 11)	75-69-4	NA ¹	NA ¹	790	0.005	NA ¹
2,4,5-Trichlorophenol	95-95-4	NA ¹	NA ¹	5,800	0.2	NA ¹
2,4,6-Trichlorophenol	88-06-2	NA ¹	NA ¹	1,700	0.2	NA ¹
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA ¹	NA ^{2,3}	530	0.0050	NA ^{1,2,3}
1,2,4-Trimethylbenzene	95-63-6	NA ¹	NA ^{2,3}	80	0.076	NA ^{1,2,3}
Vandium (total)	7440-62-2	NA ¹	800,000	NA	5.0	800,000
Vinyl chloride	75-01-4	6.4	1,000	2,900	0.0050	6.4
Xylenes (total)	1330-20-7	NA ¹	NA ^{2,3}	100	0.0050	NA ^{1,2,3}
Zinc (total)	7440-66-6	NA ¹	NA ¹	NA	6.0	NA ¹

NA = Not available/applicable

1 – Appropriate toxicological information not available

2 – Health-based criterion exceeds one million parts per million

3 – Exceeds soil saturation limit

4 – Exceeds soil saturation limit; however, human health-based criterion based on particulate portion of the equation

5 – Standard based on the Adult Lead Model (ALM)

Table 5

Soil Migration to Ground Water Remediation Standards

Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Soil Migration to Ground Water Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Soil Reporting Limit (mg/kg)	Soil Migration to Ground Water Remediation Standard (mg/kg)
Acenaphthene	83-32-9	400	82	40	0.2	NA ¹
Acetone (2-Propanone)	67-64-1	6,000	19	160,000	0.01	19
Acetophenone	98-86-2	700	3.6	1,600	0.2	3.6
Aldrin	309-00-2	0.04	0.13	2.8	0.002	0.13
Aluminum (total)	7429-90-5	NA	NA	NA	20	NA ²
Anthracene	120-12-7	2,000	1,300	1.4	0.2	NA ¹
Antimony (total)	7440-36-0	6	5.4	NA	6	6.0 ³
Arsenic (total)	7440-38-2	3	1.6	NA	1	19 ⁴
Atrazine	1912-24-9	3	0.036	21	0.2	0.20 ³
Barium (total)	7440-39-3	6,000	2,100	NA	20	2,100
Benzaldehyde	100-52-7	NA	NA	1,200	0.2	NA ⁵
Benzene	71-43-2	1	0.0094	850	0.005	0.0094
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.1	0.71	3.3	0.2	0.71
Benzo(a)pyrene	50-32-8	0.1	2.3	1.9	0.2	NA ¹
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.2	4.8	1.8	0.2	NA ¹
Benzo(k)fluoranthene	207-08-9	0.5	12	0.94	0.2	NA ¹
Beryllium	7440-41-7	1	0.70	NA	0.5	0.70
1,1'-Biphenyl	92-52-4	400	83	72	0.2	NA ¹
Bis(2-chloroethoxy)methane	111-91-1	NA	NA	1,400	0.66	NA ⁵
Bis(2-chloroethyl)ether	111-44-4	7	0.030	3,700	0.2	0.20 ³
Bis(2-ethylhexyl)phthalate	117-81-7	3	14	65	0.2	14
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1	0.0045	690	0.005	0.0050 ³
Bromoform	75-25-2	4	0.018	680	0.005	0.018
Bromomethane (Methyl bromide)	74-83-9	10	0.043	3,300	0.005	0.043
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	300	0.98	36,000	0.01	0.98
Butylbenzyl phthalate	85-68-7	100	29	39	0.2	29
Cadmium	7440-43-9	4	1.9	NA	0.5	1.9
Caprolactam	105-60-2	5,000	20	160,000	0.2	20
Carbon disulfide	75-15-0	700	3.7	580	0.5	3.7

Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Soil Migration to Ground Water Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Soil Reporting Limit (mg/kg)	Soil Migration to Ground Water Remediation Standard (mg/kg)
Carbon tetrachloride	56-23-5	1	0.0075	300	0.005	0.0075
Chlordane (alpha and gamma forms summed)	57-74-9	0.5	1.4	7.6	0.002	1.4
4-Chloroaniline	106-47-8	30	0.23	1,500	1.3	1.3 ³
Chlorobenzene	108-90-7	50	0.64	320	0.005	0.64
Chloroethane (Ethyl chloride)	75-00-3	NA	NA	1,700	0.005	NA ⁵
Chloroform	67-66-3	70	0.33	1,900	0.005	0.33
Chloromethane (Methyl chloride)	74-87-3	NA	NA	1,200	0.005	NA ⁵
2-Chloronaphthalene	91-58-7	600	61	60	0.66	NA ¹
2-Chlorophenol (o-Chlorophenol)	95-57-8	40	0.76	11,000	0.2	0.76
Chrysene	218-01-9	5	36	0.72	0.2	NA ¹
Cobalt (total)	7440-48-4	100	90	NA	5	90
Copper (total)	7440-50-8	1,300	910	NA	3	910
Cyanide	57-12-5	100	20	NA	3	20
Cyclohexane	110-82-7	NA	NA	65	0.005	NA ⁵
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	0.47	21	0.003	0.47
4,4'-DDE (p,p'-DDX)	72-55-9	0.1	0.47	9.4	0.003	0.47
4,4'-DDT	50-29-3	0.1	0.67	1.9	0.003	0.67
Dibenz(a,h)anthracene	53-70-3	0.3	23	9.5	0.2	NA ¹
Dibromochloromethane (Chlorodibromomethane)	124-48-1	1	0.0044	600	0.005	0.0050 ³
1,2-Dibromo-3-chloropropane	96-12-8	0.02	0.00015	470	0.005	0.0050 ³
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.03	0.00014	920	0.005	0.0050 ³
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	600	11	140	0.005	11
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	600	11	110	0.005	11
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	75	1.4	74	0.005	1.4
3,3'-Dichlorobenzidine	91-94-1	30	3.9	20	0.2	3.9
Dichlorodifluoromethane (Freon 12)	75-71-8	1,000	38	540	0.005	38
1,1-Dichloroethane	75-34-3	50	0.24	1,200	0.005	0.24
1,2-Dichloroethane	107-06-2	2	0.0095	2,000	0.005	0.0095
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	1	0.0069	830	0.005	0.0069

Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Soil Migration to Ground Water Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Soil Reporting Limit (mg/kg)	Soil Migration to Ground Water Remediation Standard (mg/kg)
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	70	0.35	1,600	0.005	0.35
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	100	0.51	1,100	0.005	0.51
2,4-Dichlorophenol	120-83-2	20	0.19	2,100	0.2	0.20 ³
1,2-Dichloropropane	78-87-5	1	0.0058	810	0.005	0.0058
1,3-Dichloropropene (total)	542-75-6	1	0.0063	880	0.005	0.0063
Dieldrin	60-57-1	0.03	0.024	7.9	0.003	0.024
Diethylphthalate	84-66-2	6,000	44	390	0.2	44
2,4-Dimethylphenol	105-67-9	100	2.3	8,900	0.2	2.3
Di-n-butyl phthalate	84-74-2	700	35	28	0.2	NA ¹
2,4-Dinitrophenol	51-28-5	40	0.12	430	0.3	0.30 ³
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	10	0.27	360	0.2	0.27
Di-n-octyl phthalate	117-84-0	100	560	6.2	0.2	NA ¹
1,4-Dioxane	123-91-1	10	0.032	160,000	0.2	0.20 ³
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	40	11	4.4	0.003	NA ¹
Endrin	72-20-8	2	1.6	10	0.003	1.6
Ethylbenzene	100-41-4	700	15	180	0.005	15
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA	NA	NA	80	NA ⁵
Extractable Petroleum Hydrocarbons (Other)	various	NA	NA	NA	80	NA ⁵
Fluoranthene	206-44-0	300	670	29	0.2	NA ¹
Fluorene	86-73-7	300	110	31	0.2	NA ¹
alpha-HCH (alpha-BHC)	319-84-6	0.02	0.0023	12	0.002	0.0023
beta-HCH (beta-BHC)	319-85-7	0.04	0.0046	1.4	0.002	0.0046
Heptachlor	76-44-8	0.05	0.083	15	0.002	0.083
Heptachlor epoxide	1024-57-3	0.2	0.081	4.1	0.002	0.081
Hexachlorobenzene	118-74-1	0.02	0.005	0.078	0.2	0.20 ³
Hexachloro-1,3-butadiene	87-68-3	1	0.038	6.1	0.2	0.20 ³
Hexachlorocyclopentadiene	77-47-4	40	2.5	5.6	0.2	2.5
Hexachloroethane	67-72-1	7	0.079	28	0.2	0.20 ³
n-Hexane	110-54-3	30	5.5	88	-	5.5
2-Hexanone	591-78-6	300	1.1	3,200	0.01	1.1
Indeno(1,2,3-cd)pyrene	193-39-5	0.2	16	0.086	0.2	NA ¹
Isophorone	78-59-1	40	0.23	3,400	0.2	0.23

Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Soil Migration to Ground Water Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Soil Reporting Limit (mg/kg)	Soil Migration to Ground Water Remediation Standard (mg/kg)
Isopropylbenzene	98-82-8	700	22	95	0.005	22
Lead (total)	7439-92-1	5	90	NA	1	90
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	0.03	0.0035	42	0.002	0.0035
Manganese (total)	7439-96-5	NA	NA	NA	2	NA ²
Mercury (total)	7439-97-6	2	0.014	NA	0.1	0.10 ³
Methoxychlor	72-43-5	40	43	5.4	0.02	NA ¹
Methyl acetate	79-20-9	7,000	22	39,000	0.005	22
Methylene chloride (Dichloromethane)	75-09-2	3	0.013	2,800	0.005	0.013
2-Methylnaphthalene	91-57-6	30	3.1	130	0.17	3.1
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	NA	3,400	0.01	NA ⁵
2-Methylphenol (o-cresol)	95-48-7	NA	NA	20,000	0.2	NA ⁵
4-Methylphenol (p-cresol)	106-44-5	NA	NA	16,000	0.2	NA ⁵
Methyl tert-butyl ether (MTBE)	1634-04-4	70	0.25	9,100	0.005	0.25
Naphthalene	91-20-3	300	19	100	0.2	19
Nickel (total)	7440-02-0	100	48	NA	4	48
4-Nitroaniline	100-01-6	NA	NA	270	3.3	NA ⁵
Nitrobenzene	98-95-3	6	0.073	1,300	0.2	0.20 ³
N-Nitrosodi-n-propylamine	621-64-7	10	0.14	9,200	0.2	0.20 ³
N-Nitrosodiphenylamine	86-30-6	10	1.1	190	0.2	1.1
2,2'-oxybis(1-chloropropane)	108-60-1	300	1.9	540	0.2	1.9
Pentachlorophenol	87-86-5	0.3	0.062	140	0.3	0.30 ³
Phenol	108-95-2	2,000	21	44,000	0.2	21
Polychlorinated biphenyls (PCBs)	1336-36-3	0.5	1.6	110	0.03	1.6
Pyrene	129-00-0	200	440	15	0.2	NA ¹
Selenium (total)	7782-49-2	40	11	NA	4	11
Silver (total)	7440-22-4	40	0.33	NA	1	1.0 ³
Styrene	100-42-5	100	2.1	330	0.005	2.1
Tertiary butyl alcohol (TBA)	75-65-0	100	0.32	160,000	0.1	0.32
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	NA	2.7	0.17	NA ⁵
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.00001	0.00010	0.10	0.000001	0.00010 ⁶
1,1,2,2-Tetrachloroethane	79-34-5	1	0.0069	980	0.005	0.0069
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	1	0.0086	89	0.005	0.0086
2,3,4,6-Tetrachlorophenol	58-90-2	200	24	140	0.17	24
Toluene	108-88-3	600	7.8	340	0.005	7.8

Contaminant	CAS No.	Ground Water Remediation Standard (µg/L)	Soil Migration to Ground Water Criterion (mg/kg)	Soil Saturation Limit (mg/kg)	Soil Reporting Limit (mg/kg)	Soil Migration to Ground Water Remediation Standard (mg/kg)
Toxaphene	8001-35-2	2	6.2	110	0.2	6.2
1,2,4-Trichlorobenzene	120-82-1	9	0.52	140	0.005	0.52
1,1,1-Trichloroethane	71-55-6	30	0.20	420	0.005	0.20
1,1,2-Trichloroethane	79-00-5	3	0.017	1,300	0.005	0.017
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1	0.0065	410	0.005	0.0065
Trichlorofluoromethane (Freon 11)	75-69-4	2,000	29	790	0.005	29
2,4,5-Trichlorophenol	95-95-4	700	68	5,800	0.2	68
2,4,6-Trichlorophenol	88-06-2	20	0.86	1,700	0.2	0.86
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA	530	0.005	NA ⁵
1,2,4-Trimethylbenzene	95-63-6	NA	NA	80	0.076	NA ⁵
Vanadium (total)	7440-62-2	NA	NA	NA	5	NA ⁵
Vinyl chloride	75-01-4	1	0.0067	2,900	0.005	0.0067
Xylenes (total)	1330-20-7	1,000	19	100	0.005	19
Zinc (total)	7440-66-6	2,000	930	NA	6	930

NA = Not available/not applicable

1 – Standard not applicable because criterion is above soil saturation limit

2 – Standard not applicable because Ground Water Remediation Standard is a secondary standard

3 – Standard set to soil reporting limit

4 – Standard is based on natural background

5 – Ground Water Remediation Standard not available

6 – This standard is used for comparison to site soil data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs).

Table 6

Soil Leachate Migration to Ground Water Remediation Standards (µg/L)

Contaminant	CAS No.	Ground Water Remediation Standard	Soil Leachate Migration to Ground Water Remediation Standard
Acenaphthene	83-32-9	400	NA ¹
Acetone (2-Propanone)	67-64-1	6,000	120,000
Acetophenone	98-86-2	700	14,000
Aldrin	309-00-2	0.04	0.80
Aluminum (total)	7429-90-5	NA	NA ²
Anthracene	120-12-7	2,000	NA ¹
Antimony (total)	7440-36-0	6	120
Arsenic (total)	7440-38-2	3	60
Atrazine	1912-24-9	3	60
Barium (total)	7440-39-3	6,000	120,000
Benzaldehyde	100-52-7	NA	NA ³
Benzene	71-43-2	1	20
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.1	2.0
Benzo(a)pyrene	50-32-8	0.1	NA ¹
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.2	NA ¹
Benzo(k)fluoranthene	207-08-9	0.5	NA ¹
Beryllium	7440-41-7	1	20
1,1'-Biphenyl	92-52-4	400	NA ¹
Bis(2-chloroethoxy)methane	111-91-1	NA	NA ³
Bis(2-chloroethyl)ether	111-44-4	7	140
Bis(2-ethylhexyl)phthalate	117-81-7	3	60
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1	20
Bromoform	75-25-2	4	80
Bromomethane (Methyl bromide)	74-83-9	10	200
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	300	6,000
Butylbenzyl phthalate	85-68-7	100	2,000
Cadmium	7440-43-9	4	80
Caprolactam	105-60-2	5,000	100,000
Carbon disulfide	75-15-0	700	14,000
Carbon tetrachloride	56-23-5	1	20
Chlordane (alpha and gamma forms summed)	57-74-9	0.5	10
4-Chloroaniline	106-47-8	30	600
Chlorobenzene	108-90-7	50	1,000

Contaminant	CAS No.	Ground Water Remediation Standard	Soil Leachate Migration to Ground Water Remediation Standard
Chloroethane (Ethyl chloride)	75-00-3	NA	NA ³
Chloroform	67-66-3	70	1,400
Chloromethane (Methyl chloride)	74-87-3	NA	NA ³
2-Chloronaphthalene	91-58-7	600	NA ¹
2-Chlorophenol (o-Chlorophenol)	95-57-8	40	800
Chrysene	218-01-9	5	NA ¹
Cobalt (total)	7440-48-4	100	2,000
Copper (total)	7440-50-8	1,300	26,000
Cyanide	57-12-5	100	2000
Cyclohexane	110-82-7	NA	NA ³
4,4'-DDD (p,p'-TDE)	72-54-8	0.1	2.0
4,4'-DDE (p,p'-DDX)	72-55-9	0.1	2.0
4,4'-DDT	50-29-3	0.1	2.0
Dibenz(a,h)anthracene	53-70-3	0.3	NA ¹
Dibromochloromethane (Chlorodibromomethane)	124-48-1	1	20
1,2-Dibromo-3-chloropropane	96-12-8	0.02	0.40
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.03	0.60
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	600	12,000
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	600	12,000
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	75	1,500
3,3'-Dichlorobenzidine	91-94-1	30	600
Dichlorodifluoromethane (Freon 12)	75-71-8	1,000	20,000
1,1-Dichloroethane	75-34-3	50	1,000
1,2-Dichloroethane	107-06-2	2	40
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	1	20
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	70	1,400
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	100	2,000
2,4-Dichlorophenol	120-83-2	20	400
1,2-Dichloropropane	78-87-5	1	20
1,3-Dichloropropene (total)	542-75-6	1	20
Dieldrin	60-57-1	0.03	0.60
Diethylphthalate	84-66-2	6,000	120,000
2,4-Dimethylphenol	105-67-9	100	2,000
Di-n-butyl phthalate	84-74-2	700	NA ¹
2,4-Dinitrophenol	51-28-5	40	800
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	10	200
Di-n-octyl phthalate	117-84-0	100	NA ¹

Contaminant	CAS No.	Ground Water Remediation Standard	Soil Leachate Migration to Ground Water Remediation Standard
1,4-Dioxane	123-91-1	10	200
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	40	NA ¹
Endrin	72-20-8	2	40
Ethylbenzene	100-41-4	700	14,000
Extractable Petroleum Hydrocarbons (No. 2 Fuel Oil and Diesel)	various	NA	NA ³
Extractable Petroleum Hydrocarbons (Other)	various	NA	NA ³
Fluoranthene	206-44-0	300	NA ¹
Fluorene	86-73-7	300	NA ¹
alpha-HCH (alpha-BHC)	319-84-6	0.02	0.40
beta-HCH (beta-BHC)	319-85-7	0.04	0.80
Heptachlor	76-44-8	0.05	1.0
Heptachlor epoxide	1024-57-3	0.2	4.0
Hexachlorobenzene	118-74-1	0.02	0.40
Hexachloro-1,3-butadiene	87-68-3	1	20
Hexachlorocyclopentadiene	77-47-4	40	800
Hexachloroethane	67-72-1	7	140
n-Hexane	110-54-3	30	600
2-Hexanone	591-78-6	300	6,000
Indeno(1,2,3-cd)pyrene	193-39-5	0.2	NA ¹
Isophorone	78-59-1	40	800
Isopropylbenzene	98-82-8	700	14,000
Lead (total)	7439-92-1	5	100
Lindane (gamma-HCH)(gamma-BHC)	58-89-9	0.03	0.60
Manganese (total)	7439-96-5	NA	NA ²
Mercury (total)	7439-97-6	2	40
Methoxychlor	72-43-5	40	NA ¹
Methyl acetate	79-20-9	7,000	140,000
Methylene chloride (Dichloromethane)	75-09-2	3	60
2-Methylnaphthalene	91-57-6	30	600
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	NA ³
2-Methylphenol (o-cresol)	95-48-7	NA	NA ³
4-Methylphenol (p-cresol)	106-44-5	NA	NA ³
Methyl tert-butyl ether (MTBE)	1634-04-4	70	1,400
Naphthalene	91-20-3	300	6,000
Nickel (total)	7440-02-0	100	2,000
4-Nitroaniline	100-01-6	NA	NA ³
Nitrobenzene	98-95-3	6	120
N-Nitrosodi-n-propylamine	621-64-7	10	200
N-Nitrosodiphenylamine	86-30-6	10	200

Contaminant	CAS No.	Ground Water Remediation Standard	Soil Leachate Migration to Ground Water Remediation Standard
2,2'-oxybis(1-chloropropane)	108-60-1	300	6,000
Pentachlorophenol	87-86-5	0.3	6.0
Phenol	108-95-2	2,000	40,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.5	10
Pyrene	129-00-0	200	NA ¹
Selenium (total)	7782-49-2	40	800
Silver (total)	7440-22-4	40	800
Styrene	100-42-5	100	2,000
Tertiary butyl alcohol (TBA)	75-65-0	100	2,000
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	NA ³
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.00001	0.00020 ⁴
1,1,2,2-Tetrachloroethane	79-34-5	1	20
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	1	20
2,3,4,6-Tetrachlorophenol	58-90-2	200	4,000
Toluene	108-88-3	600	12,000
Toxaphene	8001-35-2	2	40
1,2,4-Trichlorobenzene	120-82-1	9	180
1,1,1-Trichloroethane	71-55-6	30	600
1,1,2-Trichloroethane	79-00-5	3	60
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1	20
Trichlorofluoromethane (Freon 11)	75-69-4	2,000	40,000
2,4,5-Trichlorophenol	95-95-4	700	14,000
2,4,6-Trichlorophenol	88-06-2	20	400
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	NA ³
1,2,4-Trimethylbenzene	95-63-6	NA	NA ³
Vanadium (total)	7440-62-2	NA	NA ³
Vinyl chloride	75-01-4	1	20
Xylenes (total)	1330-20-7	1,000	20,000
Zinc (total)	7440-66-6	2,000	40,000

NA = Standard not available/not applicable

1 – Standard not applicable because soil criterion is above soil saturation limit

2 – Standard not applicable because Ground Water Remediation Standard is a secondary standard

3 – Ground Water Remediation Standard not available

4 – This standard is used for comparison to site soil leachate data that have been converted to sample-specific TCDD-TEQ values through application of the Toxicity Equivalence Factor Methodology (USEPA 2010) and using the WHO 2005 Mammalian Toxic Equivalency Factors (TEFs).

Table 7

Residential Indoor Air Remediation Standards ($\mu\text{g}/\text{m}^3$)

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Non- carcinogenic Indoor Air Human Health-based Criterion	Air Reporting Limit	Residential Indoor Air Remediation Standard
Acetone	67-64-1	NA	NA	12	NA
Benzene	71-43-2	0.36	31	0.64	0.64 ¹
Bromodichloromethane	75-27-4	NA	NA	1.3	NA
Bromoform	75-25-2	NA	NA	2.1	NA
Bromomethane (Methyl bromide)	74-83-9	NA	5.2	0.78	5.2
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	5,200	1.5	5,200
Carbon disulfide	75-15-0	NA	730	1.6	730
Carbon tetrachloride	56-23-5	0.47	100	1.3	1.3 ¹
Chlorobenzene	108-90-7	NA	52	0.92	52
Chloroethane (Ethyl chloride)	75-00-3	NA	10,000	1.3	10,000
Chloroform	67-66-3	NA	100	0.98	100
Chloromethane (Methyl chloride)	74-87-3	NA	94	1	94
Cyclohexane	110-82-7	NA	6,300	0.69	6,300
Dibromochloromethane	124-48-1	NA	NA	1.7	NA
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.0047	9.4	1.5	1.5 ¹
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	210	1.2	210
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	830	1.2	830
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	NA	2.5	NA
1,1-Dichloroethane	75-34-3	NA	NA	0.81	NA
1,2-Dichloroethane	107-06-2	NA	7.3	0.81	7.3
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	21	0.79	21
1,2-Dichloroethene (trans)	156-60-5	NA	NA	0.79	NA
1,2-Dichloropropane	78-87-5	NA	4.2	0.92	4.2
1,3-Dichloropropene (total)	542-75-6	0.70	21	0.91	0.91 ¹
1,4-Dioxane	123-91-1	0.56	31	0.72	0.72 ¹
Ethylbenzene	100-41-4	1.1	1,000	0.87	1.1
Hexachlorobutadiene	87-68-3	NA	NA	2.1	NA
n-Hexane	110-54-3	NA	730	0.7	730
Mercury (elemental)	7439-97-6	NA	0.31	1	1.0 ¹

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Non- carcinogenic Indoor Air Human Health-based Criterion	Air Reporting Limit	Residential Indoor Air Remediation Standard
Methylene chloride (Dichloromethane)	75-09-2	280	630	1.7	280
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	3,100	2	3,100
Methyl tert-butyl ether (MTBE)	1634-04-4	11	3,100	0.72	11
Naphthalene	91-20-3	0.083	3.1	2.6	2.6 ¹
Styrene	100-42-5	NA	1,000	0.85	1,000
1,1,2,2-Tetrachloroethane	79-34-5	NA	NA	1.4	NA
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	11	42	1.4	11
Toluene	108-88-3	NA	5,200	0.75	5,200
1,2,4-Trichlorobenzene	120-82-1	NA	2.1	3.7	3.7 ¹
1,1,1-Trichloroethane	71-55-6	NA	5,200	1.1	5,200
1,1,2-Trichloroethane	79-00-5	NA	NA	1.1	NA
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	0.68	2.1	1.1	1.1 ¹
Trichlorofluoromethane	75-69-4	NA	NA	1.1	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	31,000	1.5	31,000
1,2,4-Trimethylbenzene	95-63-6	NA	7.3	0.98	7.3
Vinyl chloride	75-01-4	0.64	100	0.51	0.64
Xylenes (total)	1330-20-7	NA	100	0.87	100

NA = Appropriate toxicological information not available

1 – Standard set at air reporting limit

Table 8

Non-residential Indoor Air Remediation Standards ($\mu\text{g}/\text{m}^3$)

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Non- carcinogenic Indoor Air Human Health-based Criterion	Air Reporting Limit	Non- residential Indoor Air Remediation Standard
Acetone	67-64-1	NA	NA	12	NA
Benzene	71-43-2	1.6	130	0.64	1.6
Bromodichloromethane	75-27-4	NA	NA	1.3	NA
Bromoform	75-25-2	NA	NA	2.1	NA
Bromomethane (Methyl bromide)	74-83-9	NA	22	0.78	22
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	NA	22,000	1.5	22,000
Carbon disulfide	75-15-0	NA	3,100	1.6	3,100
Carbon tetrachloride	56-23-5	2.0	440	1.3	2.0
Chlorobenzene	108-90-7	NA	220	0.92	220
Chloroethane (Ethyl chloride)	75-00-3	NA	44,000	1.3	44,000
Chloroform	67-66-3	NA	430	0.98	430
Chloromethane (Methyl chloride)	74-87-3	NA	390	1	390
Cyclohexane	110-82-7	NA	26,000	0.69	26,000
Dibromochloromethane	124-48-1	NA	NA	1.7	NA
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.020	39	1.5	1.5 ¹
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	NA	880	1.2	880
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	NA	3,500	1.2	3,500
Dichlorodifluoromethane (Freon 12)	75-71-8	NA	NA	2.5	NA
1,1-Dichloroethane	75-34-3	NA	NA	0.81	NA
1,2-Dichloroethane	107-06-2	NA	31	0.81	31
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	NA	88	0.79	88
1,2-Dichloroethene (trans)	156-60-5	NA	NA	0.79	NA
1,2-Dichloropropane	78-87-5	NA	18	0.92	18
1,3-Dichloropropene (total)	542-75-6	3.1	88	0.91	3.1
1,4-Dioxane	123-91-1	2.5	130	0.72	2.5
Ethylbenzene	100-41-4	4.9	4,400	0.87	4.9
Hexachlorobutadiene	87-68-3	NA	NA	2.1	NA
n-Hexane	110-54-3	NA	3,100	0.7	3,100
Mercury (elemental)	7439-97-6	NA	1.3	1	1.3

Contaminant	CAS No.	Carcinogenic Indoor Air Human Health-based Criterion	Non- carcinogenic Indoor Air Human Health-based Criterion	Air Reporting Limit	Non- residential Indoor Air Remediation Standard
Methylene chloride (Dichloromethane)	75-09-2	1,200	2,600	1.7	1,200
4-Methyl-2-pentanone (MIBK)	108-10-1	NA	13,000	2	13,000
Methyl tert-butyl ether (MTBE)	1634-04-4	47	13,000	0.72	47
Naphthalene	91-20-3	0.36	13	2.6	2.6 ¹
Styrene	100-42-5	NA	4,400	0.85	4,400
1,1,2,2-Tetrachloroethane	79-34-5	NA	NA	1.4	NA
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	47	180	1.4	47
Toluene	108-88-3	NA	22,000	0.75	22,000
1,2,4-Trichlorobenzene	120-82-1	NA	8.8	3.7	8.8
1,1,1-Trichloroethane	71-55-6	NA	22,000	1.1	22,000
1,1,2-Trichloroethane	79-00-5	NA	NA	1.1	NA
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	3.0	8.8	1.1	3.0
Trichlorofluoromethane	75-69-4	NA	NA	1.1	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	NA	130,000	1.5	130,000
1,2,4-Trimethylbenzene	95-63-6	NA	31	0.98	31
Vinyl chloride	75-01-4	2.8	440	0.51	2.8
Xylenes (total)	1330-20-7	NA	440	0.87	440

NA = Appropriate toxicological information not available

1 – Standard set at air reporting limit