

Chemical Properties for Calculation of
Impact to Ground Water Soil Remediation Standards

<i>Chemical</i>	<i>CAS Number</i>	<i>Henry's law constant (atm-m³/mol)</i>	<i>Henry's law constant (dimensionless)</i>	<i>Water solubility (mg/L)</i>	<i>Diffusion coefficient in air (cm²/sec)</i>	<i>Diffusion coefficient in water (cm²/sec)</i>	<i>K_{oc} or K_d (L/kg)^a</i>	<i>Soil Saturation Limit (mg/kg)</i>
Acenaphthene	83-32-9	1.55E-04	6.36E-03	4.24E+00	4.21E-02	7.69E-06	7.08E+03	-
Acenaphthylene	208-96-8	1.11E-04	4.51E-03	1.60E+01	4.40E-02	7.50E-06	2.76E+03	-
Acetone (2-propanone)	67-64-1	3.88E-05	1.59E-03	1.00E+06	1.24E-01	1.14E-05	5.75E-01	1.55E+05
Acetophenone	98-86-2	1.10E-05	4.51E-04	6.10E+03	6.00E-02	8.70E-06	3.70E+01	1.39E+03
Acrolein	107-02-8	1.20E-04	4.92E-03	2.10E+05	1.05E-01	1.20E-05	1.00E+00	3.27E+04
Acrylonitrile	107-13-1	1.00E-04	4.10E-03	7.40E+04	1.22E-01	1.30E-05	2.00E+00	1.17E+04
Aldrin	309-00-2	1.70E-04	6.97E-03	1.80E-01	1.32E-02	4.86E-06	2.45E+06	-
Aluminum (total)	7429-90-5	-	-	-	-	-	1.50E+03	-
Anthracene	120-12-7	6.50E-05	2.67E-03	4.34E-02	3.24E-02	7.74E-06	2.95E+04	-
Antimony (total)	7440-36-0	-	-	-	-	-	4.50E+01	-
Arsenic (total)	7440-38-2	-	-	-	-	-	2.60E+01	-
Atrazine	1912-24-9	2.96E-09	1.21E-07	7.00E+01	2.60E-02	6.70E-06	3.60E+02	-
Barium (total)	7440-39-3	-	-	-	-	-	1.70E+01	-
Benzaldehyde	100-52-7	2.67E-05	1.09E-03	3.00E+03	7.30E-02	9.10E-06	2.90E+01	6.34E+02
Benzene	71-43-2	5.55E-03	2.28E-01	1.75E+03	8.80E-02	9.80E-06	5.89E+01	5.22E+02
Benzidine	92-87-5	3.90E-11	1.60E-09	5.00E+02	3.40E-02	1.50E-05	4.70E+01	-
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	3.35E-06	1.37E-04	9.40E-03	5.10E-02	9.00E-06	3.98E+05	-
Benzo(a)pyrene	50-32-8	1.13E-06	4.63E-05	1.62E-03	4.30E-02	9.00E-06	1.02E+06	-
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	1.11E-04	4.55E-03	1.50E-03	2.26E-02	5.56E-06	1.23E+06	-
Benzo(ghi)perylene	191-24-2	1.40E-07	5.74E-06	2.60E-04	2.01E-02	5.30E-06	3.86E+06	-
Benzo(k)fluoranthene	207-08-9	8.29E-07	3.40E-05	8.00E-04	2.26E-02	5.56E-06	1.23E+06	-
Beryllium	7440-41-7	-	-	-	-	-	3.50E+01	-
1,1'-Biphenyl	92-52-4	3.00E-04	1.23E-02	6.00E+00	4.04E-02	8.20E-06	8.56E+03	-
Bis(2-chloroethyl)ether	111-44-4	1.80E-05	7.38E-04	1.72E+04	6.92E-02	7.53E-06	1.55E+01	3.17E+03
Bis(2-chloroisopropyl)ether (2,2'-oxybis(1-chloropropane))	108-60-1	7.40E-05	3.03E-03	1.30E+03	6.02E-02	6.40E-06	3.60E+02	1.14E+03
Bis(2-ethylhexyl)phthalate	117-81-7	1.02E-07	4.18E-06	3.40E-01	3.51E-02	3.66E-06	1.51E+07	1.03E+04
Bromodichloromethane (Dichlorobromomethane)	75-27-4	1.60E-03	6.56E-02	6.74E+03	2.98E-02	1.06E-05	5.50E+01	1.83E+03
Bromoform	75-25-2	5.35E-04	2.19E-02	3.10E+03	1.49E-02	1.03E-05	8.71E+01	1.02E+03
Bromomethane (Methyl bromide)	74-83-9	6.24E-03	2.56E-01	1.52E+04	7.28E-02	1.21E-05	1.05E+01	3.12E+03
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	5.60E-05	2.30E-03	2.20E+05	8.08E-02	9.80E-06	1.00E+00	3.42E+04
Butylbenzyl phthalate	85-68-7	1.26E-06	5.17E-05	2.69E+00	1.74E-02	4.83E-06	5.75E+04	3.10E+02
Cadmium	7440-43-9	-	-	-	-	-	2.30E+01	-
Caprolactam	105-60-2	3.66E-09	1.50E-07	3.01E+05	6.50E-02	9.00E-06	6.00E+00	-
Carbazole	86-74-8	1.53E-08	6.27E-07	7.48E+00	3.90E-02	7.03E-06	3.39E+03	-
Carbon disulfide	75-15-0	3.03E-02	1.24E+00	1.19E+03	1.04E-01	1.00E-05	4.57E+01	4.68E+02
Carbon tetrachloride	56-23-5	3.04E+02	1.25E+00	7.93E+02	7.80E-02	8.80E-06	1.74E+02	5.17E+02
Chlordane (alpha and gamma forms summed)	57-74-9	4.86E-05	1.99E-03	5.60E-02	1.18E-02	4.37E-06	1.20E+05	-
Chlorobenzene	108-90-7	3.70E-03	1.52E-01	4.72E+02	7.30E-02	8.70E-06	2.19E+02	2.88E+02
Chloroethane	75-00-3	8.80E-03	3.61E-01	5.70E+03	2.71E-01	1.10E-05	1.50E+01	-
Chloroform	67-66-3	3.67E-03	1.50E-01	7.92E+03	1.04E-01	1.00E-05	3.98E+01	1.99E+03
Chloromethane (Methyl chloride)	74-87-3	8.80E-03	3.61E-01	5.30E+03	1.26E-01	6.50E-06	6.00E+00	-
2-Chlorophenol (o-Chlorophenol)	95-57-8	3.91E-04	1.60E-02	2.20E+04	5.01E-02	9.46E-06	3.98E+02	2.09E+04
Chrysene	218-01-9	9.46E-05	3.88E-03	1.60E-03	2.48E-02	6.21E-06	3.98E+05	-
Cobalt (total)	7440-48-4	-	-	-	-	-	4.50E+01	-
Copper (total)	7440-50-8	-	-	-	-	-	4.30E+02	-
Cyanide	57-12-5	-	-	-	-	-	9.90E+00	-
4,4'-DDD (p,p'-TDE)	72-54-8	4.00E-06	1.64E-04	9.00E-02	1.69E-02	4.76E-06	1.00E+06	-
4,4'-DDE (p,p'-DDX)	72-55-9	2.10E-05	8.61E-04	1.20E-01	1.44E-02	5.87E-06	4.47E+06	-
4,4'-DDT	50-29-3	8.10E-06	3.32E-04	2.50E-02	1.37E-02	4.95E-06	2.63E+06	-
Dibenz(a,h)anthracene	53-70-3	1.47E-08	6.03E-07	2.49E-03	2.02E-02	5.18E-06	3.80E+06	-
Dibromochloromethane (Chlorodibromomethane)	124-48-1	7.83E-04	3.21E-02	2.60E+03	1.96E-02	1.05E-05	6.31E+01	7.37E+02
1,2-Dibromo-3-chloropropane	96-12-8	1.50E-04	6.15E-03	1.20E+03	2.12E-02	7.00E-06	7.90E+01	3.74E+02
1,2-Dibromoethane	106-93-4	7.40E-04	3.03E-02	4.20E+03	2.87E-02	8.10E-06	4.60E+01	1.05E+03
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	1.90E-03	7.79E-02	1.56E+02	6.90E-02	7.90E-06	6.17E+02	2.18E+02
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	3.10E-03	1.27E-01	1.30E+02	6.92E-02	7.90E-06	7.08E+02	2.06E+02
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	2.43E-03	9.96E-02	7.38E+01	6.90E-02	7.90E-06	6.17E+02	-
3,3'-Dichlorobenzidine	91-94-1	4.00E-09	1.64E-07	3.11E+00	1.94E-02	6.74E-06	7.24E+02	-
Dichlorodifluoromethane	75-71-8	3.40E-01	1.39E+01	2.80E+02	5.20E-02	1.00E-05	6.60E+01	-

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1,1-Dichloroethane	75-34-3	5.62E-03	2.30E-01	5.06E+03	7.42E-02	1.05E-05	3.16E+01	1.24E+03
1,2-Dichloroethane	107-06-2	9.79E-04	4.01E-02	8.52E+03	1.04E-01	9.90E-06	1.74E+01	1.64E+03
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4	2.61E-02	1.07E+00	2.25E+03	9.00E-02	1.04E-05	5.89E+01	8.99E+02
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	4.08E-03	1.67E-01	3.50E+03	7.36E-02	1.13E-05	3.55E+01	8.55E+02
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	9.38E-03	3.85E-01	6.30E+03	7.07E-02	1.19E-05	5.25E+01	1.92E+03
2,4-Dichlorophenol	120-83-2	3.16E-06	1.30E-04	4.50E+03	3.46E-02	8.77E-06	1.59E+02	-
1,2-Dichloropropane	78-87-5	2.80E-03	1.15E-01	2.80E+03	7.80E-02	8.73E-06	4.37E+01	7.13E+02
1,3-Dichloropropene (cis and trans) (summed)	542-75-6	1.77E-02	7.26E-01	2.80E+03	6.26E-02	1.00E-05	4.57E+01	9.29E+02
Diethrin	60-57-1	1.51E-05	6.19E-04	1.95E-01	1.25E-02	4.74E-06	2.14E+04	-
Diethylphthalate	84-66-2	4.50E-07	1.85E-05	1.08E+03	2.56E-02	6.35E-06	2.88E+02	7.88E+02
2,4-Dimethylphenol	105-67-9	2.00E-06	8.20E-05	7.87E+03	5.84E-02	8.69E-06	2.09E+02	-
Di-n-butyl phthalate	84-74-2	9.38E-10	3.85E-08	1.12E+01	4.38E-02	7.86E-06	3.39E+04	7.61E+02
4,6-Dinitro-2-methylphenol	534-52-1	4.30E-07	1.76E-05	2.00E+02	2.93E-02	6.90E-06	1.16E+02	-
2,4-Dinitrophenol	51-28-5	4.43E-07	1.82E-05	2.79E+03	2.73E-02	9.06E-06	1.78E-02	-
2,4-Dinitrotoluene	121-14-2	9.26E-08	3.80E-06	2.70E+02	2.03E-01	7.06E-06	9.55E+01	-
2,6-Dinitrotoluene	606-20-2	7.47E-07	3.06E-05	1.82E+02	3.27E-02	7.26E-06	6.92E+01	-
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	4.20E-07	1.72E-05	2.26E+02	1.18E-01	7.16E-06	8.24E+01	-
Di-n-octyl phthalate	117-84-0	6.68E-05	2.74E-03	2.00E-02	1.51E-02	3.58E-06	8.32E+07	3.33E+03
1,2-Diphenylhydrazine	122-66-7	1.50E-06	6.15E-05	6.80E+01	3.17E-02	7.40E-06	7.10E+02	-
Endosulfan I and Endosulfan II (alpha and beta) (summed)	115-29-7	1.12E-05	4.59E-04	5.10E-01	1.15E-02	4.55E-06	2.14E+03	-
Endosulfan sulfate	1031-07-8	2.10E-03	8.61E-02	6.40E+00	1.10E-02	4.40E-06	1.02E+03	-
Endrin	72-20-8	7.52E-06	3.08E-04	2.50E-01	1.25E-02	4.74E-06	1.23E+04	-
Ethylbenzene	100-41-4	7.88E-03	3.23E-01	1.69E+02	7.50E-02	7.80E-06	3.63E+02	1.55E+02
Fluoranthene	206-44-0	1.61E-05	6.60E-04	2.06E-01	3.02E-02	6.35E-06	1.07E+05	-
Fluorene	86-73-7	6.36E-05	2.61E-03	1.98E+00	3.63E-02	7.88E-06	1.38E+04	-
alpha-HCH (alpha-BHC)	319-84-6	1.06E-05	4.35E-04	2.00E+00	1.42E-02	7.34E-06	1.23E+03	-
beta-HCH (beta-BHC)	319-85-7	7.43E-07	3.05E-05	2.40E-01	1.42E-02	7.34E-06	1.26E+03	-
Heptachlor	76-44-8	1.09E-03	4.47E-02	1.80E-01	1.12E-02	5.69E-06	1.41E+06	-
Heptachlor epoxide	1024-57-3	9.50E-06	3.90E-04	2.00E-01	1.32E-02	4.23E-06	8.32E+04	-
Hexachlorobenzene	118-74-1	1.32E-03	5.41E-02	6.20E+00	5.42E-02	5.91E-06	5.50E+04	-
Hexachloro-1,3-butadiene	87-68-3	8.15E-03	3.34E-01	3.23E+00	5.61E-02	6.16E-06	5.37E+04	3.48E+02
Hexachlorocyclopentadiene	77-47-4	2.70E-02	1.11E+00	1.80E+00	1.61E-02	7.21E-06	2.00E+05	7.21E+02
Hexachloroethane	67-72-1	3.89E-03	1.59E-01	5.00E+01	2.50E-03	6.80E-06	1.78E+03	-
2-Hexanone	591-78-6	9.30E-05	3.80E-03	1.80E+04			2.40E+01	3.63E+03
Indeno(1,2,3-cd)pyrene	193-39-5	1.60E-06	6.56E-05	2.20E-05	1.90E-02	5.66E-06	3.47E+06	-
Isophorone	78-59-1	6.64E-06	2.72E-04	1.20E+04	6.23E-02	6.76E-06	4.68E+01	2.96E+03
Lead (total)	7439-92-1	-	-	-	-	-	9.00E+02	-
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	1.40E-05	5.74E-04	6.80E+00	1.42E-02	7.34E-06	1.07E+03	-
Manganese (total)	7439-96-5	-	-	-	-	-	6.50E+01	-
Mercury (total)	7439-97-6	-	-	-	-	-	2.00E-01	-
Methoxychlor	72-43-5	1.58E-05	6.48E-04	4.50E-02	1.56E-02	4.46E-06	9.77E+04	-
Methyl acetate	79-20-9	1.15E-04	4.72E-03	2.40E+05	1.04E-01	1.00E-05	2.00E+00	3.79E+04
Methylene chloride (Dichloromethane)	75-09-2	2.19E-03	8.98E-02	1.30E+04	1.01E-01	1.17E-05	1.17E+01	2.44E+03
2-Methylnaphthalene	91-57-6	5.2E-04	2.13E-02	2.5E+01	5.22E-02	7.75E-06	6.82E+03	-
2-Methylphenol (o-cresol)	95-48-7	1.20E-06	4.92E-05	2.60E+04	7.40E-02	8.30E-06	9.12E+01	-
4-Methylphenol (p-cresol)	106-44-5	7.90E-07	3.24E-05	2.20E+04	7.40E-02	1.00E-05	7.40E+01	-
MTBE (tert-butyl methyl ether)	1634-04-4	5.87E-04	2.40E-02	4.80E+04	1.02E-01	1.00E-05	8.00E+00	8.27E+03
Naphthalene	91-20-3	4.83E-04	1.98E-02	3.10E+01	5.90E-02	7.50E-06	2.00E+03	-
Nickel (total)	7440-02-0	-	-	-	-	-	2.40E+01	-
2-Nitroaniline	88-74-4	1.81E-08	7.42E-07	2.90E+02	7.30E-02	8.00E-06	7.40E+01	-
Nitrobenzene	98-95-3	2.40E-05	9.84E-04	2.09E+03	7.60E-02	8.60E-06	6.46E+01	5.91E+02
N-Nitrosodimethylamine	62-75-9	1.20E-06	4.92E-05	1.00E+06	1.13E-01	1.20E-05	3.00E-01	1.54E+05
N-Nitrosodi-n-propylamine	621-64-7	2.25E-06	9.23E-05	9.89E+03	5.45E-02	8.17E-06	2.40E+01	-
N-Nitrosodiphenylamine	86-30-6	5.00E-06	2.05E-04	3.51E+01	3.12E-02	6.35E-06	1.29E+03	-
PCBs (Polychlorinated biphenyls) (summed)	1336-36-3	2.60E-03	1.07E-01	7.00E-01	1.75E-02	8.00E-06	3.09E+05	4.33E+02
Pentachlorophenol	87-86-5	2.44E-08	1.00E-06	1.95E+03	5.60E-02	6.10E-06	5.10E+03	-
Phenanthrene	85-01-8	2.30E-05	9.43E-04	1.10E+00	3.33E-02	7.50E-06	2.65E+04	-
Phenol	108-95-2	3.97E-07	1.63E-05	8.28E+04	8.20E-02	9.10E-06	2.88E+01	-
Pyrene	129-00-0	1.10E-05	4.51E-04	1.35E-01	2.72E-02	7.24E-06	1.05E+05	-
Selenium (total)	7782-49-2	-	-	-	-	-	1.40E+01	-
Silver (total)	7440-22-4	-	-	-	-	-	2.60E-01	-
Styrene	100-42-5	2.75E-05	1.13E-01	3.10E+02	7.10E-02	8.00E-06	7.76E+02	5.33E+02
Tertiary butyl alcohol (TBA)	75-65-0	9.05E-06	3.71E-04	1.00E+06	9.85E-02	1.14E-05	2.00E+00	-

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1,1,2,2-Tetrachloroethane	79-34-5	3.45E-04	1.41E-02	2.97E+03	7.10E-02	7.90E-06	9.33E+01	1.01E+03
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	1.84E-02	7.54E-01	2.00E+02	7.20E-02	8.20E-06	1.55E+02	1.11E+02
Thallium (total)	7440-28-0	-	-	-	-	-	<i>4.80E+01</i>	-
Toluene	108-88-3	6.64E-03	2.72E-01	5.26E+02	8.70E-02	8.60E-06	1.82E+02	2.89E+02
Toxaphene	8001-35-2	6.00E-06	2.46E-04	7.40E-01	1.16E-02	4.34E-06	2.57E+05	-
1,2,4-Trichlorobenzene	120-82-1	1.42E-03	5.82E-02	3.00E+02	3.00E-02	8.23E-06	1.78E+03	1.12E+03
1,1,1-Trichloroethane	71-55-6	1.72E-02	7.05E-01	1.33E+03	7.80E-02	8.80E-06	1.10E+02	6.09E+02
1,1,2-Trichloroethane	79-00-5	9.13E-04	3.74E-02	4.42E+03	7.80E-02	8.80E-06	5.01E+01	1.14E+03
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	1.03E-02	4.22E-01	1.10E+03	7.90E-02	9.10E-06	1.66E+02	5.90E+02
Trichlorofluoromethane	75-69-4	9.70E-02	3.98E+00	1.10E+03	4.26E-02	1.00E-05	1.14E+02	9.44E+02
2,4,5-Trichlorophenol	95-95-4	4.33E-06	1.78E-04	1.20E+03	2.91E-02	7.03E-06	2.34E+03	-
2,4,6-Trichlorophenol	88-06-2	7.79E-06	3.19E-04	8.00E+02	3.18E-02	6.25E-06	9.99E+02	-
Vanadium (total)	7440-62-2	-	-	-	-	-	<i>1.00E+03</i>	-
Vinyl chloride	75-01-4	2.70E-02	1.11E+00	2.76E+03	1.06E-01	1.23E-06	1.86E+01	-
Xylenes (total)	1330-20-7	6.73E-03	2.76E-01	1.75E+02	7.69E-02	8.44E-06	3.86E+02	1.68E+02
Zinc (total)	7440-66-6	-	-	-	-	-	<i>2.30E+01</i>	-

a Values in italics are Kd values

