Toxicity and Bioaccumulation Factors Used in the Draft 2014 Updated Ambient Water Quality Criteria for the Protection of Human Health

Chemical Pollutant	CAS Number	*Reference Dose (RfD) (mg/kg·d)	*Cancer Slope Factor (CSF) (kg·d/mg)	*Bioaccumulation Factor (BAF) (L/kg)		
				Trophic Level 2	Trophic Level 3	Trophic Level 4
Acenaphthene	83-32-9	0.06	---	123.1	116.4	94.95
Acrolein	107-02-8	0.0005	---	0.992	0.9891	0.9705
Acrylonitrile	107-13-1	---	0.54	1.034	1.036	1.033
Aldrin	309-00-2	---	17	222,600	207,700	184,000
alpha-BHC	319-84-6	---	6.3	934.9	1,118	1,935
alpha-Endosulfan	959-98-8	0.006	---	375.6	409.7	544.4
Anthracene	120-12-7	0.3	---	1,212	1,169	1,151
Benzene	71-43-2	---	0.015-0.055	8.9	10.01	14.79
Benzidine	92-87-5	---	230	2.195	2.354	2.992
Benzo(a) Anthracene	56-55-3	---	0.29	1,577	748.7	405.5
Benzo(a) Pyrene	50-32-8	---	2.9	2,736	983.7	395.6
Benzo(b) Fluoranthene	205-99-2	---	0.29	5,325	2,643	1,165
Benzo(k) Fluoranthene	207-08-9	---	0.29	1,883	675.5	300.5
beta-BHC	319-85-7	---	1.8	934.9	1,118	1,935
beta-Endosulfan	33213-65-9	0.006	---	178.9	199.2	281.1
Bis(Chloromethyl) Ether	542-88-1	---	2.2E+02	1.149	1.166	1.225
Bis(2-Chloroethyl) Ether	111-44-4	---	1.1	2.028	2.156	2.639
**Bis(2-Chloro-1-Methylethyl) Ether	108-60-1	0.04	---	13.48	14.23	15.63
Bis(2-Ethylhexyl) Phthalate	117-81-7	---	0.014	17,370	6,120	1,040
Bromoform	75-25-2	---	0.0046	13.85	15.18	19.49
Butylbenzyl Phthalate	85-68-7	0.2	---	62.46	54.54	40.08
Carbon Tetrachloride	56-23-5	---	0.07	20.02	20.11	18.82
Chlordane	57-74-9	---	0.35	688,200	1,318,000	3,205,000
Chlorobenzene	108-90-7	0.02	---	24.41	25.05	25
Chlorodibromomethane	124-48-1	---	0.043	8.723	9.616	12.78
Chloroform	67-66-3	0.01	---	6.003	6.591	8.706
Chlorophenoxy Herbicide (2,4-D)	94-75-7	0.05	---	39.49	44.92	68.75
Chlorophenoxy Herbicide (2,4,5-TP)	93-72-1	0.008	---	389.7	441.9	662.9
Chrysene	218-01-9	---	0.029	8,997	4,739	1,993
Cyanide	57-12-5	0.0006	---	0.9634	0.9561	0.9202
Dibenzo(a,h) Anthracene	53-70-3	---	4.1	24,690	10,700	2,863
Dichlorobromomethane	75-27-4	---	0.035	6.562	7.269	10.01
Dieldrin	60-57-1	---	16	17,280	20,740	30,820
Diethyl Phthalate	84-66-2	0.8	---	6.747	6.636	5.889
Dimethyl Phthalate	131-11-3	10	---	2.066	2.065	1.953
Di-n-Butyl Phthalate	84-74-2	0.1	---	236.2	209.4	159.4
Dinitrophenols	25550-58-7	0.002	---	1.808	1.835	1.833
Endosulfan Sulfate	1031-07-8	0.006	---	255	281	383
Endrin	72-20-8	0.0003	---	17,280	20,740	30,820
Endrin Aldehyde	7421-93-4	0.0003	---	5,409	6,428	10,070
Ethylbenzene	100-41-4	0.1	---	61.51	65.33	73.56
Fluoranthene	206-44-0	0.04	---	790.1	563.4	388.4
Fluorene	86-73-7	0.04	---	763	789.7	909.2
gamma-BHC (Lindane)	58-89-9	0.0047	---	934.9	1,118	1,935

Heptachlor	76-44-8	---	4.5	31,680	33,940	39,160
Heptachlor Epoxide	1024-57-3	---	9.1	11,850	19,230	55,830
Hexachlorobenzene	118-74-1	---	1.6	157,300	294,000	791,100
Hexachlorobutadiene	87-68-3	---	0.04	6,044	8,953	23,410
Hexachlorocyclohexane-Technical	608-73-1	---	1.8	1,270	1,534	2,705
Hexachlorocyclopentadiene	77-47-4	0.006	---	7,310	6,930	6,502
Hexachloroethane	67-72-1	---	0.04	727.1	762.8	912.6
Ideno(1,2,3-cd) Pyrene	193-39-5	---	0.29	5,370	1,465	316.6
Isophorone	78-59-1	---	9.5E-04	3.301	3.493	3.992
Methoxychlor	72-43-5	0.005	---	8,963	8,860	9,001
Methyl Bromide	74-83-9	0.02	---	1.795	1.891	2.243
Methylene Chloride	75-09-2	---	0.0033	1.968	2.098	2.63
Nitrobenzene	98-95-3	0.002	---	4.669	5.072	6.433
Pentachlorobenzene	608-93-5	0.0008	---	19,630	28,470	61,860
Pentachlorophenol	87-86-5	---	0.4	486.1	360.9	254.7
Phenol	108-95-2	0.3	---	2.193	2.27	2.419
Pyrene	129-00-0	0.03	---	1,322	1,058	784.9
Tetrachloroethylene	127-18-4	---	0.002	54.22	52.97	46.04
Toluene	108-88-3	0.08	---	27.6	30.14	37.79
Toxaphene	8001-35-2	---	1.1	117,800	163,300	278,100
Trichloroethylene	79-01-6	---	0.05	15.43	17.18	23.7
Vinyl Chloride	75-01-4	---	1.4	3.343	3.652	4.892
1,1,1-Trichloroethane	71-55-6	2	---	10.55	10.7	10.32
1,1,2,2-Tetrachloroethane	79-34-5	---	0.2	13.72	15.08	19.6
1,1,2-Trichloroethane	79-00-5	---	0.057	4.91	5.312	6.585
1,1-Dichloroethylene	75-35-4	0.05	---	8.186	9.012	11.93
1,2,4-Trichlorobenzene	120-82-1	0.01	---	642.8	714.7	1,010
1,2,4,5-Tetrachlorobenzene	95-94-3	0.0003	---	3,696	4,798	9,639
1,2-Dichlorobenzene	95-50-1	0.3	---	151.5	168.6	235.6
1,2-Dichloroethane	107-06-2	---	0.091	2.67	2.89	3.777
1,2-Dichloropropane	78-87-5	---	0.036	5.664	6.106	7.414
1,2-Diphenylhydrazine	122-66-7	---	0.8	41.47	44.73	53.3
1,2-Trans-Dichloroethylene	156-60-5	0.02	---	6.731	7.507	10.71
1,3-Dichlorobenzene	541-73-1	0.002	---	134.3	140.1	149.5
1,3-Dichloropropene	542-75-6	---	0.1	7.137	7.965	11.38
1,4-Dichlorobenzene	106-46-7	0.07	---	165.7	187.5	281.3
2,4,5-Trichlorophenol	95-95-4	0.1	---	190.4	195	198.5
2,4,6-Trichlorophenol	88-06-2	---	0.011	109.6	106.9	93.59
2,4-Dichlorophenol	120-83-2	0.003	---	35.28	35.65	33.95
2,4-Dimethylphenol	105-67-9	0.02	---	9.984	10.67	12.33
2,4-Dinitrophenol	51-28-5	0.002	---	2.697	2.765	2.814
2,4-Dinitrotoluene	121-14-2	---	0.667	6.485	7.232	10.33
2-Chloronaphthalene	91-58-7	0.08	---	440.4	477.8	626.2
2-Chlorophenol	95-57-8	0.005	---	8.957	9.989	14.07
2-Methyl-4,6-Dinitrophenol	534-52-1	0.0004	---	4.757	4.771	4.485
3,3'-Dichlorobenzidine	91-94-1	---	0.45	138.1	145.6	162.1
3-Methyl-4-Chlorophenol	59-50-7	0.1	---	23.02	22.24	18.76
4,4'-DDD	72-54-8	---	0.24	370,200	678,800	1,636,000
4,4'-DDE	72-55-9	---	0.167	463,100	573,300	775,200
4,4'-DDT	50-29-3	---	0.34	1,022,000	1,446,000	2,315,000

*See chemical pollutant specific human health ambient water quality criteria documents for references for these inputs.

**Bis(2-Chloro-1-Methylethyl) Ether was previously listed as Bis(2-Chloroisopropyl) Ether.