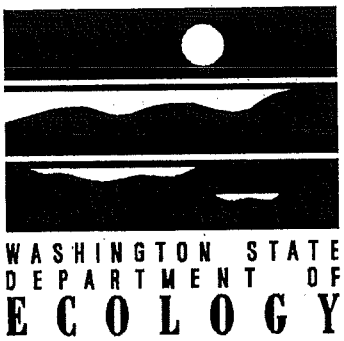

Toxicology Database for Use in Washington Ranking Method Scoring

Prepared for:
Washington State Department of Ecology
Toxics Cleanup Program
Olympia, Washington 98504-7600

Prepared by:
Science Applications International Corporation
626 Columbia Street N.W., Suite 1-C
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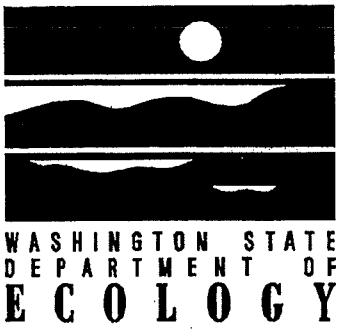
January 1992
92-37



Toxicology Database for Use in Washington Ranking Method Scoring

January 1992
92-37

Corrections to Toxicology Database for WARM Scoring

Page Number	(Old) WARM Scoring Value	Correct Value
1	As – DE standard = 6	8
4	Pb – DW standard = 8	6
	Pb – Chronic Oral = ND	10
5	TPH-Diesel – DW standard = 6	4
9	PCE – Acute Inhalation = ND	5

Page Number	(Old) Toxicity Data	Correct Value
18	PCE – Acute Inhalation = ND	4000 mg/m^3; LCLo, rat
22	Pb – Chronic Oral = ND	<0.001 mg/kg/day (NOAEL)
30	As – DW standard = 50 ppb	10 ppb
32	Pb – DW standard = 5 ppb	15 ppb
33	TPH-Diesel – DW standard = 20 ppb	160 ppb

Remember: you can always access Ecology's CLARC database at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx (don't forget the "s" after http) for other chemicals than are not found in the above database, or to check to see if an update has occurred.

11/03/2008

TABLE OF CONTENTS

INTRODUCTION

INTRODUCTION

This toxicology database has been prepared specifically for use in the WARM ranking system. It incorporates information for the parameters which have been developed for the toxicity measures and the physical/chemical parameters necessary to develop a raw route score using the WARM ranking system. The list of chemicals were chosen from Ecology's database for cleanup standards, and represent those chemicals which are most typically identified at sites being scored using the WARM system.

The database is broken into a number of parts; the first part of the document consists of lists of values for the water routes and air routes toxicity parameters, and the physical chemical parameters. This is followed by the data for each of these parameters which were used to generate the scoring values. Last, a synonym list is provided for the chemicals identified.

It is expected that this database will change as the list of chemicals identified in WARM grows.

WATER ROUTE TOXICITY VALUES

WATER ROUTE TOXICITY VALUES

	CHEMICAL NAME	DRINKING WATER STANDARD	ACUTE ORAL TOXICITY	CHRONIC ORAL TOXICITY	CARCINOGENICITY ORAL TOXICITY	WATER QUALITY CRITERIA Fresh	Marine
1	acenaphthene	ND	ND	1	ND	2	4
2	acenaphthylene	ND	ND	ND	ND	ND	4
3	acetone	ND	3	1	ND	ND	ND
4	acrolein	ND	10	ND	ND	6	6
5	acrylamide	ND	5	5	6	ND	ND
6	acrylonitrile	0	10	ND	4	2	ND
7	alachlor	8	5	3	4	ND	ND
8	aldicarb	8	10	8	ND	ND	ND
9	aldrin	ND	10	8	7	8	8
10	ammonia	2	5	1	ND	*	ND
11	aniline	ND	5	ND	2	ND	ND
12	anthracene	ND	ND	1	ND	ND	4
13	antimony	8	10	5	ND	2	ND
14	aramite	ND	5	1	4	ND	ND
15	arsenic	8 6	5	5	7	4	6
16	asbestos	ND	ND	ND	ND	ND	ND
17	atrazine	8	5	3	ND	ND	ND
18	azobenzene	ND	5	ND	4	ND	ND
19	benzene	8	3	ND	5	2	2
20	benzidine	ND	5	3	10	2	ND
21	benzo[a]anthracene	10	ND	ND	7	ND	4
22	benzo[a]pyrene	10	10	ND	7	ND	4
23	benzo[b]fluoranthene	10	ND	ND	7	ND	4
24	benzo[k]fluoranthene	10	ND	ND	7	ND	4
25	benzo[ghi]perylene	ND	ND	ND	ND	ND	4
26	benzoic acid	ND	5	1	ND	ND	ND
27	benzotrichloride	ND	5	ND	7	ND	ND
28	benzyl alcohol	ND	3	1	ND	ND	ND
29	benzyl chloride	ND	3	ND	4	ND	ND
30	beryllium	10	ND	3	6	4	ND
31	bis(2-chloroethoxy)methane	ND	8	ND	ND	4	ND
32	bis(2-chloroethyl)ether (BCEE)	ND	8	ND	6	2	ND
33	bis(2-chloroisopropyl) ether	4	5	1	ND	2	ND
34	bis(chloromethyl)ether (BCME)	ND	5	ND	10	2	ND
35	bis(2-ethylhexyl) phthalate (BEHP)	ND	1	1	4	4	2
36	bromodichloromethane (THM)	ND	5	1	4	2	2
37	bromoform (THM)	ND	3	1	2	2	2
38	4-bromophenyl phenyl ether	ND	ND	ND	ND	4	ND
39	butyl benzyl phthalate	8	3	1	ND	4	2
40	cadmium	8	5	5	ND	8	6
41	carbazole	ND	5	ND	4	ND	ND
42	carbofuran	6	10	3	ND	ND	ND
43	carbon disulfide	ND	3	1	ND	ND	ND
44	carbon tetrachloride	8	3	5	4	2	2
45	chlordane	8	5	8	6	8	10
46	4-chloroaniline	ND	8	3	ND	ND	ND
47	chlorobenzene	6	3	1	ND	4	4
48	chloroethane	ND	ND	ND	ND	ND	ND
49	2-chloroethyl vinyl ether	ND	5	ND	ND	2	ND
50	chloroform	ND	5	3	2	2	ND
51	chloromethane	8	3	ND	3	2	2
52	2-chloronapthalene	ND	3	1	ND	2	8
53	o-chloronitrobenzene	ND	5	ND	4	ND	ND
54	2-chlorophenol	6	5	3	ND	2	ND

WATER ROUTE TOXICITY VALUES

	CHEMICAL NAME	DRINKING WATER STANDARD	ACUTE ORAL TOXICITY	CHRONIC ORAL TOXICITY	CARCINOGENICITY ORAL TOXICITY	WATER QUALITY CRITERIA Fresh	Marine
109	endosulfan (total)	ND	10	8	ND	10	10
110	endosulfan sulfate	ND	10	ND	ND	ND	ND
111	endothall	6	10	1	ND	ND	ND
112	endrin	8	10	5	ND	10	10
113	endrin ketone	ND	10	ND	ND	ND	ND
114	epichlorohydrin	ND	8	3	2	ND	ND
115	ethyl acrylate	ND	5	ND	4	ND	ND
116	ethylbenzene	4	3	1	ND	2	4
117	ethylene dibromide (EDB)	10	8	ND	6	ND	ND
118	ethylene glycol	2	5	1	ND	ND	ND
119	ethylene thiourea	ND	3	ND	4	ND	ND
120	fluoranthene	ND	3	1	ND	2	6
121	fluorene	10	ND	1	ND	ND	4
122	folpet	ND	3	1	2	ND	ND
123	heptachlor	10	10	5	6	10	10
124	heptachlor epoxide	10	10	ND	6	ND	ND
125	hexachlorobenzene	10	1	5	6	4	4
126	hexachlorobutadiene	10	8	3	3	6	6
127	hexachlorocyclohexane;alpha (BHC)	ND	5	ND	6	6	10
128	hexachlorocyclohexane;beta (BHC)	ND	1	ND	4	6	10
129	hexachlorocyclohexane;delta (BHC)	ND	5	ND	ND	6	10
130	hexachlorocyclopentadiene	6	3	3	ND	8	8
131	hexachloroethane	10	3	5	3	4	4
132	2-hexanone	ND	3	ND	ND	ND	ND
133	hydrazine sulfate	ND	8	ND	6	ND	ND
134	indeno[1,2,3-cd]pyrene	10	ND	ND	ND	ND	4
135	isophorone	6	3	1	2	2	2
136	lead	6 ~~8~~	ND	10 ~~ND~~	ND	6	4
137	lindane (gamma-BHC)	10	8	5	4	8	10
138	malathion	4	5	1	ND	ND	ND
139	mercury (inorganic)	8	ND	5	ND	8	8
140	mercury (methyl)	8	ND	5	ND	8	8
141	methoxychlor	4	1	3	ND	ND	ND
142	methyl bromide	8	5	3	ND	2	2
143	methyl ethyl ketone (MEK)	4	3	1	ND	ND	ND
144	methyl isobutyl ketone (MIBK)	ND	3	1	ND	ND	ND
145	methyl parathion	8	10	5	ND	ND	ND
146	methylene chloride	8	3	1	2	ND	ND
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	6	5	5	ND	ND	ND
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	ND	5	5	ND	ND	ND
149	2-methylnaphthalene	ND	3	ND	ND	ND	ND
150	mirex	ND	5	10	6	ND	ND
151	naphthalene	6	5	3	ND	2	2
152	nickel and compounds	6	ND	1	ND	2	6
153	2-nitroaniline	ND	3	ND	ND	ND	ND
154	3-nitroaniline	ND	5	ND	ND	ND	ND
155	4-nitroaniline	ND	5	ND	ND	ND	ND
156	nitrobenzene	ND	5	5	ND	2	2
157	nitrofurazone	ND	5	ND	6	ND	ND
158	2-nitrophenol	ND	5	ND	ND	4	2
159	4-nitrophenol	6	5	ND	ND	4	2
160	N-nitrosodiethanolamine	ND	1	ND	6	2	2
161	N-nitrosodiethylamine	ND	5	ND	8	2	2
162	N-nitrosodimethylamine (DMNA)	ND	8	ND	7	2	2

AIR ROUTE TOXICITY VALUES

AIR ROUTE TOXICITY VALUES FOR WARM

	CHEMICAL NAME	AMBIENT AIR STANDARDS	ACUTE INHALATION	CHRONIC INHALALATION	CARCINOGENICITY INHALATION
1	acenaphthene	ND	ND	ND	ND
2	acenaphthylene	ND	ND	ND	ND
3	acetone	1	3	ND	ND
4	acrolein	10	10	8	ND
5	acrylamide	10	ND	ND	6
6	acrylonitrile	10	8	ND	4
7	alachlor	ND	ND	ND	ND
8	aldicarb	ND	8	ND	ND
9	aldrin	10	ND	ND	7
10	ammonia	7	5	1	ND
11	aniline	7	8	ND	ND
12	anthracene	ND	ND	ND	ND
13	antimony	9	ND	ND	ND
14	aramite	ND	ND	ND	4
15	arsenic	10	ND	ND	9
16	asbestos	ND	ND	ND	ND
17	atrazine	7	5	ND	ND
18	azobenzene	ND	ND	ND	4
19	benzene	10	3	ND	5
20	benzidine	10	ND	ND	10
21	benzo[a]anthracene	ND	ND	ND	ND
22	benzo[a]pyrene	10	ND	ND	ND
23	benzo[b]fluoranthene	ND	ND	ND	ND
24	benzo[k]fluoranthene	ND	ND	ND	ND
25	benzo[ghi]perylene	ND	ND	ND	ND
26	benzoic acid	ND	ND	ND	ND
27	benzotrichloride	ND	10	ND	ND
28	benzyl alcohol	ND	5	ND	ND
29	benzyl chloride	7	8	ND	ND
30	beryllium	10	ND	ND	6
31	bis(2-chloroethoxy)methane	ND	ND	ND	ND
32	bis(2-chloroethyl)ether (BCEE)	10	8	ND	6
33	bis(2-chloroisopropyl) ether	ND	ND	ND	ND
34	bis(chloromethyl)ether (BCME)	10	10	ND	10
35	bis(2-ethylhexyl) phthalate (BEHP)	ND	ND	ND	ND
36	bromodichloromethane (THM)	ND	ND	ND	ND
37	bromoform (THM)	7	ND	ND	2
38	4-bromophenyl phenyl ether	ND	ND	ND	ND
39	butyl benzyl phthalate	ND	ND	ND	ND
40	cadmium	10	10	ND	6
41	carbazole	ND	ND	ND	ND
42	carbofuran	10	10	ND	ND
43	carbon disulfide	7	5	3	ND
44	carbon tetrachloride	10	3	ND	4
45	chlordane	10	ND	ND	ND
46	4-chloroaniline	ND	8	ND	ND
47	chlorobenzene	1	ND	3	ND
48	chloroethane	1	1	ND	ND
49	2-chloroethyl vinyl ether	ND	ND	ND	ND
50	chloroform	10	3	ND	4
51	chloromethane	4	5	ND	2
52	2-chloronapthalene	ND	ND	ND	ND
53	o-chloronitrobenzene	ND	ND	ND	ND
54	2-chlorophenol	ND	ND	ND	ND

AIR ROUTE TOXICITY VALUES FOR WARM

	CHEMICAL NAME	AMBIENT AIR STANDARDS	ACUTE INHALATION	CHRONIC INHALALATION	CARCINOGENICITY INHALATION
109	endosulfan (total)	10	10	ND	ND
110	endosulfan sulfate	ND	ND	ND	ND
111	endothall	ND	ND	ND	ND
112	endrin	10	ND	ND	ND
113	endrin ketone	ND	ND	ND	ND
114	epichlorohydrin	ND	8	8	2
115	ethyl acrylate	7	5	ND	ND
116	ethylbenzene	1	ND	ND	ND
117	ethylene dibromide (EDB)	10	3	ND	4
118	ethylene glycol	4	ND	ND	ND
119	ethylene thiourea	ND	ND	ND	ND
120	fluoranthene	ND	ND	ND	ND
121	fluorene	ND	ND	ND	ND
122	folpet	ND	ND	ND	ND
123	heptachlor	10	ND	ND	6
124	heptachlor epoxide	ND	ND	ND	6
125	hexachlorobenzene	10	5	ND	6
126	hexachlorobutadiene	10	ND	ND	3
127	hexachlorocyclohexane;alpha (BHC)	ND	ND	ND	6
128	hexachlorocyclohexane;beta (BHC)	ND	ND	ND	4
129	hexachlorocyclohexane;delta (BHC)	ND	ND	ND	ND
130	hexachlorocyclopentadiene	10	10	8	ND
131	hexachloroethane	10	ND	ND	3
132	2-hexanone	7	3	ND	ND
133	hydrazine sulfate	ND	8	ND	7
134	indeno[1,2,3-cd]pyrene	ND	ND	ND	ND
135	isophorone	7	ND	ND	ND
136	lead	10	ND	ND	ND
137	lindane (gamma-BHC)	9	ND	ND	ND
138	malathion	7	10	ND	ND
139	mercury (inorganic)	10	ND	8	ND
140	mercury (methyl)	10	ND	ND	ND
141	methoxychlor	7	ND	ND	ND
142	methyl bromide	7	5	3	ND
143	methyl ethyl ketone (MEK)	1	3	1	ND
144	methyl isobutyl ketone (MIBK)	4	3	1	ND
145	methyl parathion	10	10	ND	ND
146	methylene chloride	9	3	1	4
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	ND	ND	ND	ND
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	ND	ND	ND	ND
149	2-methylnaphthalene	ND	ND	ND	ND
150	mirex	ND	ND	ND	ND
151	naphthalene	4	ND	ND	ND
152	nickel and compounds	9	ND	ND	5
153	2-nitroaniline	ND	ND	ND	ND
154	3-nitroaniline	ND	ND	ND	ND
155	4-nitroaniline	9	ND	ND	ND
156	nitrobenzene	7	ND	5	ND
157	nitrofurazone	ND	ND	ND	ND
158	2-nitrophenol	ND	ND	ND	ND
159	4-nitrophenol	ND	ND	ND	ND
160	N-nitrosodiethanolamine	ND	ND	ND	ND
161	N-nitrosodiethylamine	ND	ND	ND	8
162	N-nitrosodimethylamine (DMNA)	ND	8	ND	ND

SCORING VALUES FOR PHYSICAL/CHEMICAL PARAMETERS

	CHEMICAL NAME	Solubility	Vapor Pressure	Henry's Constant
1	acenaphthene	0	3	3
2	acenaphthylene	0	3	4
3	acetone	3	4	3
4	acrolein	3	4	2
5	acrylamide	3	3	1
6	acrylonitrile	3	4	3
7	alachlor	ND	1	1
8	aldicarb	ND	1	1
9	aldrin	0	1	3
10	ammonia	3	4	3
11	aniline	3	3	4
12	anthracene	0	2	4
13	antimony	3	3	1
14	aramite	ND	1	1
15	arsenic	3	1	1
16	asbestos	ND	1	1
17	atrazine	ND	1	1
18	azobenzene	ND	1	1
19	benzene	3	4	4
20	benzidine	2	2	2
21	benzo[a]anthracene	0	1	2
22	benzo[a]pyrene	0	1	2
23	benzo[b]fluoranthene	0	1	3
24	benzo[k]fluoranthene	0	1	3
25	benzo[ghi]perylene	0	1	1
26	benzoic acid	3	3	1
27	benzotrichloride	ND	3	1
28	benzyl alcohol	3	1	1
29	benzyl chloride	3	3	3
30	beryllium	2	1	1
31	bis(2-chloroethoxy)methane	3	3	1
32	bis(2-chloroethyl)ether (BCEE)	3	3	3
33	bis(2-chloroisopropyl) ether	3	3	3
34	bis(chloromethyl)ether (BCME)	3	4	3
35	bis(2-ethylhexyl) phthalate (BEHP)	0	1	1
36	bromodichloromethane (THM)	3	4	4
37	bromoform (THM)	3	3	3
38	4-bromophenyl phenyl ether	ND	3	1
39	butyl benzyl phthalate	0	1	2
40	cadmium	3	1	1
41	carbazole	ND	1	1
42	carbofuran	2	1	1
43	carbon disulfide	3	4	4
44	carbon tetrachloride	2	4	4
45	chlordane	0	1	2
46	4-chloroaniline	3	3	3
47	chlorobenzene	2	4	4
48	chloroethane	3	4	4
49	2-chloroethyl vinyl ether	3	4	1
50	chloroform	3	4	4
51	chloromethane	3	4	4
52	2-chloronapthalene	0	3	1
53	o-chloronitrobenzene	2	3	3
54	2-chlorophenol	3	3	2

	CHEMICAL NAME	Solubility	Vapor Pressure	Henry's Constant
109	endosulfan (total)	0	1	1
110	endosulfan sulfate	0	1	1
111	endothall	3	1	1
112	endrin	0	1	1
113	endrin ketone	ND	1	1
114	epichlorohydrin	3	4	3
115	ethyl acrylate	3	4	1
116	ethylbenzene	2	3	4
117	ethylene dibromide (EDB)	3	4	3
118	ethylene glycol	3	1	1
119	ethylene thiourea	3	1	1
120	fluoranthene	0	1	2
121	fluorene	0	2	3
122	folpet	ND	1	1
123	heptachlor	0	2	3
124	heptachlor epoxide	0	2	3
125	hexachlorobenzene	0	2	3
126	hexachlorobutadiene	0	3	4
127	hexachlorocyclohexane;alpha (BHC)	0	2	2
128	hexachlorocyclohexane;beta (BHC)	0	1	2
129	hexachlorocyclohexane;delta (BHC)	1	2	2
130	hexachlorocyclopentadiene	0	3	4
131	hexachloroethane	1	3	4
132	2-hexanone	ND	1	1
133	hydrazine sulfate	3	4	1
134	indeno[1,2,3-cd]pyrene	0	1	1
135	isophorone	3	3	2
136	lead	2	1	1
137	lindane (gamma-BHC)	0	2	2
138	malathion	2	2	1
139	mercury (inorganic)	3	3	1
140	mercury (methyl)	3	1	1
141	methoxychlor	0	1	1
142	methyl bromide	3	4	4
143	methyl ethyl ketone (MEK)	3	4	3
144	methyl isobutyl ketone (MIBK)	3	4	3
145	methyl parathion	1	1	1
146	methylene chloride	3	4	4
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	ND	1	1
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	ND	1	1
149	2-methylnaphthalene	ND	1	1
150	mirex	ND	1	1
151	naphthalene	1	3	3
152	nickel and compounds	2	1	1
153	2-nitroaniline	3	4	1
154	3-nitroaniline	ND	1	1
155	4-nitroaniline	2	3	1
156	nitrobenzene	3	3	1
157	nitrofurazone	ND	1	1
158	2-nitrophenol	3	3	2
159	4-nitrophenol	3	3	1
160	N-nitrosodiethanolamine	ND	1	1
161	N-nitrosodiethylamine	ND	3	1
162	N-nitrosodimethylamine (DMNA)	3	3	2

ACUTE TOXICITY DATA

NOTES FOR ACUTE TOXICITY

LC50 (LD50) - the lethal concentration (or dose) killing 50% of exposed organisms within a specified time.

LCLo (LDLo) - the lowest concentration (or dose) reported to have caused death in humans or animals over a given time period.

mus =	mouse
hmn, man =	human
wmn =	woman
inf =	infant
H =	hour
M =	minute

ERRATUM

Please note that the unit for Acute Toxicity-Inhalation, on pages 15-18, should be mg/m^3, (not mg/kg BW).

	CHEMICAL NAME	Acute Toxicity Oral LD50/LDLo (mg/kg BW)	TYPE	SOURCE	Acute Toxicity Inhalation LC50/LCLo (mg/m3)	TYPE	SOURCE
1	acenaphthene	-	-	9	-	-	9
2	acenaphthylene	-	-	10	-	-	10
3	acetone	3000	LD50,mus	10	50100	LC50/8H,rat	10
4	acrolein	40	LD50,mus	10	12.6	LCLo,hmn	10
5	acrylamide	107	LD50,mus	10	-	-	10
6	acrylonitrile	27	LD50,mus	10	1000	LCLo/1H,man	10
7	alachlor	462	LD50,mus	10	-	-	10
8	aldicarb	0.3	LD50,mus	10	200	LC50/5H,rat	10
9	aldrin	39	LD50,rat	9	-	-	9
10	ammonia	350	LD50,rat	16	1394	LCLo/4H,rat	16
11	aniline	250	LD50,rat	10	667	LC50/7H,mus	10
12	anthracene	-	-	9	-	-	9
13	antimony	7	LD50,rat	9	-	-	9
14	aramite	429	LDLo,hmn	10	-	-	10
15	arsenic	763	LD50,rat	9	-	-	9
16	asbestos	-	-	10	-	-	10
17	atrazine	672	LD50,rat	10	5200	LC50/4H,rat	10
18	azobenzene	1000	LD50,rat	10	-	-	10
19	benzene	3306	LD50,rat	9	31947	LC50/7H,rat	9
20	benzidine	214	LD50,mus	10	-	-	10
21	benzo[a]anthracene	-	-	9	-	-	9
22	benzo[a]pyrene	50	LD50,rat	9	-	-	9
23	benzo[b]fluoranthene	-	-	9	-	-	9
24	benzo[k]fluoranthene	-	-	9	-	-	9
25	benzo[ghi]perylene	-	-	10	-	-	10
26	benzoic acid	500	LDLo,man	10	-	-	10
27	benzotrichloride	702	LD50,mus	10	64	LC50/2H,mus	10
28	benzyl alcohol	1230	LD50,rat	10	8847	LCLo/4H,rat	10
29	benzyl chloride	1231	LD50,rat	10	414	LC50/2H,mus	10
30	beryllium	-	-	9	-	-	9
31	bis(2-chloroethoxy)methane	65	LD50,rat	9	-	-	9
32	bis(2-chloroethyl)ether (BCEE)	75	LD50,rat	10	313	LC50/4H,rat	10
33	bis(2-chloroisopropyl) ether	240	LD50,rat	9	-	-	9
34	bis(chloromethyl)ether (BCME)	210	LD50,rat	10	33	LC50/7H,rat	10
35	bis(2-ethylhexyl) phthalate (BEHP)	30600	LD50,rat	9	-	-	9
36	bromodichloromethane (THM)	916	LD50,rat	9	-	-	9
37	bromoform (THM)	1147	LD50,rat	9	-	-	9
38	4-bromophenyl phenyl ether	-	-	9	-	-	9
39	butyl benzyl phthalate	2330	LD50,rat	9	-	-	9
40	cadmium	225	LD50,rat	9	25	LC50/30M,rat	9
41	carbazole	500	LDLo,rat	10	-	-	10
42	carbofuran	2	LD50,mus	10	85	LC50,rat	10
43	carbon disulfide	2780	LD50,mus	10	6227	LCLo/5M,hmn	10
44	carbon tetrachloride	2350	LD50,rat	9	50330	LC50/4H,rat	9
45	chlordane	200	LD50,rat	9	-	-	9
46	4-chloroaniline	100	LD50,mus	10	250	LC12/6H,mus	10
47	chlorobenzene	2290	LD50,rat	9	-	-	9
48	chloroethane	-	-	9	160000	LC50/2H,rat	9
49	2-chloroethyl vinyl ether	250	LD50,rat	9	-	-	9
50	chloroform	908	LD50,rat	9	47702	LC50/4H,rat	9
51	chloromethane	1800	LD50,rat	9	5300	LC50/4H,rat	9
52	2-chloronapthalene	2078	LD50,rat	9	-	-	9
53	o-chloronitrobenzene	135	LD50,mus	10	-	-	10
54	2-chlorophenol	670	LD50,rat	9	-	-	9

	CHEMICAL NAME	Acute Toxicity Oral LD50/LDLo (mg/kg BW)	TYPE	SOURCE	Acute Toxicity Inhalation LC50/LCLo (mg/m3)	TYPE	SOURCE
109	endosulfan (total)	18	LD50,rat	9	80	LC50/4H,rat	9
110	endosulfan sulfate	18	LD50,rat	10	-	-	10
111	endothall	38	LD50,rat	10	-	-	10
112	endrin	3	LD50,rat	9	-	-	9
113	endrin ketone	10	LD50,rat	10	-	-	10
114	epichlorohydrin	90	LD50,rat	10	946	LC50/8H,rat	10
115	ethyl acrylate	277	LD50,rat	10	4754	LC50/4H,rat	10
116	ethylbenzene	3500	LD50,rat	9	-	-	9
117	ethylene dibromide (EDB)	90	LDLo,wmn	10	14300	LC50/30M,rat	10
118	ethylene glycol	398	LDLo,hmn	10	-	-	10
119	ethylene thiourea	1832	LD50,rat	10	-	-	10
120	fluoranthene	2000	LD50,rat	9	-	-	9
121	fluorene	-	-	10	-	-	10
122	folpet	1546	LD50,mus	10	-	-	10
123	heptachlor	40	LD50,rat	9	-	-	9
124	heptachlor epoxide	15	LD50,rat	9	-	-	9
125	hexachlorobenzene	10000	LD50,rat	9	3600	LC50,rat	9
126	hexachlorobutadiene	90	LD50,rat	9	-	-	9
127	hexachlorocyclohexane;alpha (BHC)	177	LD50,rat	9	-	-	9
128	hexachlorocyclohexane;beta (BHC)	6000	LD50,rat	9	-	-	9
129	hexachlorocyclohexane;delta (BHC)	1000	LD50,rat	9	-	-	9
130	hexachlorocyclopentadiene	1300	LD50,rat	9	17.8	LC50/4H,rat	9
131	hexachloroethane	4460	LD50,rat	9	-	-	9
132	2-hexanone	2430	LD50,mus	10	32779	LC50/4H,rat	10
133	hydrazine sulfate	59	LD50,mus	10	330	LC50/4H,mus	10
134	indeno[1,2,3-cd]pyrene	-	-	9	-	-	9
135	isophorone	2330	LD50,rat	9	-	-	9
136	lead	-	-	9	-	-	9
137	lindane (gamma-BHC)	76	LD50,rat	9	-	-	9
138	malathion	246	LDLo,wmn	10	84.6	LC50/4H,rat	10
139	mercury (inorganic)	-	-	9	-	-	9
140	mercury (methyl)	-	-	10	-	-	10
141	methoxychlor	6430	LDLo,hmn	10	-	-	10
142	methyl bromide	214	LD50,rat	9	1173	LC50/8H,rat	9
143	methyl ethyl ketone (MEK)	2737	LD50,rat	9	23500	LC50/8H,rat	9
144	methyl isobutyl ketone (MIBK)	2080	LD50,rat	10	23300	LC50,mus	10
145	methyl parathion	6	LD50,rat	10	34	LC50/4H,rat	10
146	methylene chloride	1600	LD50,rat	9	88000	LC50/30M,rat	9
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	814	LDLo,man	10	-	-	10
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	369	LD50,mus	10	-	-	10
149	2-methylnaphthalene	1630	LD50,rat	10	-	-	10
150	mirex	235	LD50,rat	10	-	-	10
151	naphthalene	490	LD50,rat	9	-	-	9
152	nickel and compounds	-	-	9	-	-	9
153	2-nitroaniline	1070	LD50,mus	10	-	-	10
154	3-nitroaniline	308	LD50,mus	10	-	-	10
155	4-nitroaniline	750	LD50,rat	10	-	-	10
156	nitrobenzene	489	LD50,rat	9	-	-	9
157	nitrofurazone	249	LD50,mus	10	-	-	10
158	2-nitrophenol	334	LD50,rat	9	-	-	9
159	4-nitrophenol	250	LD50,rat	9	-	-	9
160	N-nitrosodiethanolamine	7500	LD50,rat	10	-	-	10
161	N-nitrosodiethylamine	280	LD50,rat	10	-	-	10
162	N-nitrosodimethylamine (DMNA)	58	LD50,rat	10	173	LC50/4H,mus	10

CHRONIC TOXICITY DATA

NOTES FOR CHRONIC TOXICITY

RfD = U.S. EPA Reference Dose
"-" = Data not available or inadequate for quantitative risk assessment.

	CHEMICAL NAME	Chronic Toxicity Oral RfD (mg/kg/d)	SOURCE	Chronic Toxicity Inhalation RfD (mg/kg/d)	SOURCE
1	acenaphthene	0.06	4	-	5
2	acenaphthylene	-	5	-	5
3	acetone	0.1	4	-	5
4	acrolein	-	4	2.8E-05	5
5	acrylamide	0.0002	4	-	5
6	acrylonitrile	-	4	-	5
7	alachlor	0.01	4	-	5
8	aldicarb	7E-05	4	-	5
9	aldrin	3E-05	4	-	5
10	ammonia	0.97	5	0.103	5
11	aniline	-	4	-	5
12	anthracene	0.3	4	-	5
13	antimony	0.0004	4	-	5
14	aramite	0.05	5	-	5
15	arsenic	0.001	5	-	5
16	asbestos	-	4	-	5
17	atrazine	0.005	4	-	5
18	azobenzene	-	4	-	5
19	benzene	-	4	-	5
20	benzidine	0.003	4	-	5
21	benzo[a]anthracene	-	4	-	5
22	benzo[a]pyrene	-	4	-	5
23	benzo[b]fluoranthene	-	4	-	5
24	benzo[k]fluoranthene	-	4	-	5
25	benzo[ghi]perylene	-	17	-	17
26	benzoic acid	4	4	-	5
27	benzotrichloride	-	4	-	5
28	benzyl alcohol	0.3	5	-	5
29	benzyl chloride	-	4	-	5
30	beryllium	0.005	4	-	5
31	bis(2-chloroethoxy)methane	-	17	-	17
32	bis(2-chloroethyl)ether (BCEE)	-	4	-	5
33	bis(2-chloroisopropyl) ether	0.04	5	-	5
34	bis(chloromethyl)ether (BCME)	-	4	-	5
35	bis(2-ethylhexyl) phthalate (BEHP)	0.02	4	-	5
36	bromodichloromethane (THM)	0.02	4	-	5
37	bromoform (THM)	0.02	4	-	5
38	4-bromophenyl phenyl ether	-	5	-	5
39	butyl benzyl phthalate	0.2	4	-	5
40	cadmium	0.0005	4	-	5
41	carbazole	-	4	-	5
42	carbofuran	0.005	4	-	5
43	carbon disulfide	0.1	4	0.0028	5
44	carbon tetrachloride	0.0007	5	-	5
45	chlordane	6E-05	4	-	5
46	4-chloroaniline	0.004	4	-	5
47	chlorobenzene	0.02	4	0.005	5
48	chloroethane	-	5	-	5
49	2-chloroethyl vinyl ether	-	17	-	17
50	chloroform	0.01	4	-	5
51	chloromethane	-	4	-	5
52	2-chloronapthalene	0.08	17	-	17
53	o-chloronitrobenzene	-	4	-	5
54	2-chlorophenol	0.005	4	-	5

	CHEMICAL NAME	Chronic Toxicity Oral RfD (mg/kg/d)	SOURCE	Chronic Toxicity Inhalation RfD (mg/kg/d)	SOURCE
109	endosulfan (total)	5E-05	4	-	5
110	endosulfan sulfate	-	17	-	17
111	endothall	0.02	4	-	5
112	endrin	0.0003	4	-	5
113	endrin ketone	-	17	-	17
114	epichlorohydrin	0.002	4	8.5E-05	5
115	ethyl acrylate	-	4	-	5
116	ethylbenzene	0.1	4	-	5
117	ethylene dibromide (EDB)	-	4	-	5
118	ethylene glycol	2	5	-	5
119	ethylene thiourea	-	4	-	5
120	fluoranthene	0.04	4	-	5
121	fluorene	0.04	4	-	5
122	folpet	0.1	4	-	5
123	heptachlor	0.0005	4	-	5
124	heptachlor epoxide	-	5	-	5
125	hexachlorobenzene	0.0008	4	-	5
126	hexachlorobutadiene	0.002	4	-	5
127	hexachlorocyclohexane;alpha (BHC)	-	4	-	5
128	hexachlorocyclohexane;beta (BHC)	-	4	-	7
129	hexachlorocyclohexane;delta (BHC)	-	5	-	5
130	hexachlorocyclopentadiene	0.007	4	2E-05	5
131	hexachloroethane	0.001	4	-	5
132	2-hexanone	-	5	-	5
133	hydrazine sulfate	-	4	-	5
134	indeno[1,2,3-cd]pyrene	-	17	-	17
135	isophorone	0.2	4	-	5
136	lead	<0.001 -	4	-	5
137	lindane (gamma-BHC)	0.0003	4	-	5
138	malathion	0.02	4	-	5
139	mercury (inorganic)	0.0003	4	8.5E-05	5
140	mercury (methyl)	0.0003	5	-	5
141	methoxychlor	0.005	4	-	5
142	methyl bromide	0.0014	4	0.0017	5
143	methyl ethyl ketone (MEK)	0.05	4	0.09	5
144	methyl isobutyl ketone (MIBK)	0.05	4	0.02	5
145	methyl parathion	0.00025	4	-	5
146	methylene chloride	0.06	4	0.86	5
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	0.0005	5	-	5
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	0.001	5	-	5
149	2-methylnaphthalene	-	17	-	17
150	mirex	2E-06	4	-	5
151	naphthalene	0.004	4	-	5
152	nickel and compounds	0.02	4	-	5
153	2-nitroaniline	-	5	-	5
154	3-nitroaniline	-	5	-	5
155	4-nitroaniline	-	5	-	5
156	nitrobenzene	0.0005	4	0.00057	5
157	nitrofurazone	-	4	-	5
158	2-nitrophenol	-	5	-	5
159	4-nitrophenol	-	5	-	5
160	N-nitrosodiethanolamine	-	4	-	5
161	N-nitrosodiethylamine	-	4	-	5
162	N-nitrosodimethylamine (DMNA)	-	4	-	5

CARCINOGENICITY DATA

NOTES FOR CARCINOGENIC RISK

CPF =	Cancer potency (slope) factor
A =	Known human carcinogen
B1 =	Probable human carcinogen, limited human evidence
B2 =	Probable human carcinogen, sufficient evidence in animals and inadequate or no evidence in humans
C =	Possible human carcinogen
D =	Not classifiable as to human carcinogenicity
"-" =	Data not available or inadequate for quantitative risk assessment

	CHEMICAL NAME	Carcinogenicity Oral CPF (mg/kg/d)-1	SOURCE	Carcinogenicity Inhal. CPF (mg/kg/d)-1	SOURCE	Carcinogenicity Weight of Evidence	SOURCE
1	acenaphthene	-	4	-	5	-	5
2	acenaphthylene	-	5	-	5	-	5
3	acetone	-	4	-	5	-	5
4	acrolein	-	4	-	5	C	5
5	acrylamide	4.5	4	4.5	5	B2	5
6	acrylonitrile	0.54	4	0.24	5	B1	5
7	alachlor	0.081	7	-	5	B2	5
8	aldicarb	-	5	-	5	-	5
9	aldrin	17	4	17	5	B2	5
10	ammonia	-	5	-	5	-	5
11	aniline	0.0057	4	-	5	B2	5
12	anthracene	-	4	-	5	-	5
13	antimony	-	4	-	5	-	5
14	aramite	0.025	5	0.025	5	B2	5
15	arsenic	1.75	4	50	5	A	5
16	asbestos	-	4	-	5	A	5
17	atrazine	-	4	-	5	-	5
18	azobenzene	0.11	4	0.11	5	B2	5
19	benzene	0.029	4	0.029	5	A	5
20	benzidine	230	4	230	5	A	5
21	benzo[a]anthracene	11.5	8	-	5	B2	5
22	benzo[a]pyrene	12	8	-	5	B2	5
23	benzo[b]fluoranthene	11.5	8	-	5	B2	5
24	benzo[k]fluoranthene	11.5	8	-	5	B2	5
25	benzo[ghi]perylene	-	17	-	17	D	17
26	benzoic acid	-	4	-	5	-	5
27	benzotrichloride	13	4	-	5	B2	5
28	benzyl alcohol	-	4	-	5	-	5
29	benzyl chloride	0.17	4	-	5	B2	5
30	beryllium	4.3	4	8.4	5	B2	5
31	bis(2-chloroethoxy)methane	-	17	-	17	-	17
32	bis(2-chloroethyl)ether (BCEE)	1.1	4	1.1	5	B2	5
33	bis(2-chloroisopropyl) ether	-	5	-	5	-	5
34	bis(chloromethyl)ether (BCME)	220	4	220	5	A	5
35	bis(2-ethylhexyl) phthalate (BEHP)	0.014	4	-	5	B2	5
36	bromodichloromethane (THM)	0.13	4	-	5	B2	5
37	bromoform (THM)	0.0079	4	0.0039	5	B2	5
38	4-bromophenyl phenyl ether	-	5	-	5	-	5
39	butyl benzyl phthalate	-	4	-	5	C	5
40	cadmium	-	4	6.1	5	B1	5
41	carbazole	0.02	5	-	5	B2	5
42	carbofuran	-	4	-	5	-	5
43	carbon disulfide	-	4	-	5	-	5
44	carbon tetrachloride	0.13	5	0.13	5	B2	5
45	chlordane	1.3	4	-	5	B2	5
46	4-chloroaniline	-	4	-	5	-	5
47	chlorobenzene	-	4	-	5	-	5
48	chloroethane	-	5	-	5	-	5
49	2-chloroethyl vinyl ether	-	17	-	17	-	17
50	chloroform	0.0061	4	0.081	5	B2	5
51	chloromethane	0.013	5	0.0063	5	C	5
52	2-chloronapthalene	-	17	-	17	-	17
53	o-chloronitrobenzene	0.025	5	-	5	B2	5
54	2-chlorophenol	-	4	-	5	-	5

	CHEMICAL NAME	Carcinogenicity Oral CPF (mg/kg/d)-1	SOURCE	Carcinogenicity Inhal. CPF (mg/kg/d)-1	SOURCE	Carcinogenicity Weight of Evidence	SOURCE
109	endosulfan (total)	-	4	-	5	-	5
110	endosulfan sulfate	-	17	-	17	-	17
111	endothall	-	4	-	5	-	5
112	endrin	-	4	-	5	-	5
113	endrin ketone	-	17	-	17	-	17
114	epichlorohydrin	0.0099	4	0.0042	5	B2	5
115	ethyl acrylate	0.048	5	-	5	B2	5
116	ethylbenzene	-	4	-	5	-	5
117	ethylene dibromide (EDB)	8.5	4	0.76	5	B2	5
118	ethylene glycol	-	5	-	5	-	5
119	ethylene thiourea	0.036	5	-	5	B2	5
120	fluoranthene	-	4	-	5	-	5
121	fluorene	-	4	-	5	-	5
122	folpet	0.0035	4	-	5	B2	5
123	heptachlor	4.5	4	4.5	5	B2	5
124	heptachlor epoxide	9.1	5	9.1	5	B2	5
125	hexachlorobenzene	1.6	5	1.6	5	B2	5
126	hexachlorobutadiene	0.078	4	0.078	5	C	5
127	hexachlorocyclohexane;alpha (BHC)	6.3	4	6.3	5	B2	5
128	hexachlorocyclohexane;beta (BHC)	1.8	4	1.8	5	C	5
129	hexachlorocyclohexane;delta (BHC)	-	5	-	5	-	5
130	hexachlorocyclopentadiene	-	4	-	5	-	5
131	hexachloroethane	0.014	4	0.014	5	C	5
132	2-hexanone	-	5	-	5	-	5
133	hydrazine sulfate	3	4	17.1	5	B2	5
134	indeno[1,2,3-cd]pyrene	-	17	-	17	B2	17
135	isophorone	0.0041	4	-	5	C	5
136	lead	-	4	-	5	B2	5
137	lindane (gamma-BHC)	1.3	4	-	5	B2-C	5
138	malathion	-	4	-	5	-	5
139	mercury (inorganic)	-	4	-	5	-	5
140	mercury (methyl)	-	5	-	5	-	5
141	methoxychlor	-	4	-	5	-	5
142	methyl bromide	-	4	-	7	-	5
143	methyl ethyl ketone (MEK)	-	4	-	5	-	5
144	methyl isobutyl ketone (MIBK)	-	4	-	5	-	5
145	methyl parathion	-	4	-	5	-	5
146	methylene chloride	0.0075	4	0.014	5	B2	5
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	-	4	-	5	-	5
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	-	5	-	5	-	5
149	2-methylnaphthalene	-	17	-	17	-	17
150	mirex	1.8	4	-	5	B2	5
151	naphthalene	-	4	-	5	-	5
152	nickel and compounds	-	4	0.84	5	A	5
153	2-nitroaniline	-	5	-	5	-	5
154	3-nitroaniline	-	5	-	5	-	5
155	4-nitroaniline	-	5	-	5	-	5
156	nitrobenzene	-	4	-	5	-	5
157	nitrofurazone	1.5	5	-	5	B2	5
158	2-nitrophenol	-	5	-	5	-	5
159	4-nitrophenol	-	5	-	5	-	5
160	N-nitrosodiethanolamine	2.8	4	-	5	B2	5
161	N-nitrosodiethylamine	150	4	150	5	B2	5
162	N-nitrosodimethylamine (DMNA)	51	4	-	5	B2	5

WATER AND AIR QUALITY STANDARDS

NOTES FOR WATER AND AIR QUALITY MEASURES

MCL = Maximum contaminant level
MCLG = Maximum contaminant level goal
PMCL = Proposed MCL
PMCLG = Proposed MCL goal
HA-Lifetime = Lifetime Health Advisory
"-" = Data not available or inadequate for quantitative risk assessment.

Ambient Water Quality Criteria: Some values presented are Lowest Observed Effect Levels (LOELs) rather than water quality criteria, and some values are dependent on hardness (100 mg/L). Refer to Reference 3 for complete discussions. Values for arsenic are for the +3 oxidation state.

Ambient Air Standard: Values presented are annual average Allowable Ambient Limits (AALs) which protect public health from chronic exposure.

	CHEMICAL NAME	DRINKING WATER STANDARDS (ug/l)	STATUS	SOURCE	Water: Ambient WQC, Acute Freshwater (ug/l)	Marine (ug/l)	SOURCE	AMBIENT AIR STANDARD (ug/m3)	SOURCE
1	acenaphthene	-	-	2	1700	970	3	-	1
2	acenaphthylene	-	-	2	-	300	3	-	1
3	acetone	-	-	2	-	-	3	5927.4	1
4	acrolein	-	-	2	68	55	3	0.8	1
5	acrylamide	-	-	2	-	-	3	0.1	1
6	acrylonitrile	-	-	2	7550	-	3	0.015	1
7	alachlor	2	PMCL	2	-	-	3	-	1
8	aldicarb	10	PMCLG	2	-	-	3	-	1
9	aldrin	-	-	2	3	1.3	3	0.0002	1
10	ammonia	30000	HA-Lifetime	2	*			59.9	1
11	aniline	-	-	2	-	-	3	33.3	1
12	anthracene	-	-	2	-	300	3	-	1
13	antimony	3	PMCLG	2	9000	-	3	1.7	1
14	aramite	-	-	2	-	-	3	-	1
15	arsenic	10,50	MCL	2	360	69	3	0.00023	1
16	asbestos	-	-	2	-	-	3	-	1
17	atrazine	3	PMCLG	2	-	-	3	16.7	1
18	azobenzene	-	-	2	-	-	3	-	1
19	benzene	5	MCL	2	5300	5100	3	0.12	1
20	benzidine	-	-	2	2500	-	3	1.5E-05	1
21	benzo[a]anthracene	0.2	PMCL	2	-	300	3	-	1
22	benzo[a]pyrene	0.2	PMCL	2	-	300	3	0.0006	1
23	benzo[b]fluoranthene	0.2	PMCL	2	-	300	3	-	1
24	benzo[k]fluoranthene	0.2	PMCL	2	-	300	3	-	1
25	benzo[ghi]perylene	-	-	2	-	300	3	-	1
26	benzoic acid	-	-	2	-	-	3	-	1
27	benzotrichloride	-	-	2	-	-	3	-	1
28	benzyl alcohol	-	-	2	-	-	3	-	1
29	benzyl chloride	-	-	2	-	-	3	16.7	1
30	beryllium	1	PMCL	2	130	-	3	0.00042	1
31	bis(2-chloroethoxy)methane	-	-	2	360	-	3	-	1
32	bis(2-chloroethyl)ether (BCEE)	-	-	2	238000	-	3	0.003	1
33	bis(2-chloroisopropyl) ether	300	HA-Lifetime	2	238000	-	3	-	1
34	bis(chloromethyl)ether (BCME)	-	-	2	238000	-	3	1.6E-05	1
35	bis(2-ethylhexyl) phthalate (BEHP)	-	-	2	940	2944	3	-	1
36	bromodichloromethane (THM)	-	-	2	11000	12000	3	-	1
37	bromoform (THM)	-	-	2	11000	12000	3	16.7	1
38	4-bromophenyl phenyl ether	-	-	2	360	-	3	-	1
39	butyl benzyl phthalate	4	PMCL	2	940	2944	3	-	1
40	cadmium	5	PMCLG	2	3.9	43	3	0.00056	1
41	carbazole	-	-	2	-	-	3	-	1
42	carbofuran	40	PMCLG	2	-	-	3	0.3	1
43	carbon disulfide	-	-	2	-	-	3	99.9	1
44	carbon tetrachloride	5	MCL	2	35200	50000	3	0.067	1
45	chlordane	2	PMCL	2	2.4	0.09	3	0.0027	1
46	4-chloroaniline	-	-	2	-	-	3	-	1
47	chlorobenzene	100	PMCLG	2	250	160	3	1165.5	1
48	chloroethane	-	-	2	-	-	3	8658	1
49	2-chloroethyl vinyl ether	-	-	2	238000	-	3	-	1
50	chloroform	-	-	2	28900	-	3	0.043	1
51	chloromethane	3	HA-Lifetime	2	11000	12000	3	349.7	1
52	2-chloronapthalene	-	-	2	1600	7.5	3	-	1
53	o-chloronitrobenzene	-	-	2	-	-	3	-	1
54	2-chlorophenol	40	HA-Lifetime	2	4380	-	3	-	1

	CHEMICAL NAME	DRINKING WATER STANDARDS (ug/l)	STATUS	SOURCE	Water: Ambient WQC, Acute Freshwater (ug/l)	Marine (ug/l)	SOURCE	AMBIENT AIR STANDARD (ug/m3)	SOURCE
109	endosulfan (total)	-	-	2	0.22	0.034	3	0.3	1
110	endosulfan sulfate	-	-	2	-	-	3	-	1
111	endothall	100	PMCLG	2		-	3	-	1
112	endrin	2	PMCLG	2	0.18	0.037	3	0.3	1
113	endrin ketone	-	-	2	-	-	3	-	1
114	epichlorohydrin	-	-	2	-	-	3	-	1
115	ethyl acrylate	-	-	2	-	-	3	66.6	1
116	ethylbenzene	700	PMCLG	2	32000	430	3	1448.6	1
117	ethylene dibromide (EDB)	0.05	PMCL	2	-	-	3	0.0045	1
118	ethylene glycol	7000	HA-Lifetime	2	-	-	3	416.30	1
119	ethylene thiourea	-	-	2	-	-	3	-	1
120	fluoranthene	-	-	2	3980	40	3	-	1
121	fluorene	0.2	PMCL	2	-	300	3	-	1
122	folpet	-	-	2	-	-	3	-	1
123	heptachlor	0.4	PMCL	2	0.52	0.053	3	0.00077	1
124	heptachlor epoxide	0.2	PMCL	2	-	-	3	-	1
125	hexachlorobenzene	1	PMCL	2	250	160	3	0.002	1
126	hexachlorobutadiene	1	HA-Lifetime	2	90	32	3	0.8	1
127	hexachlorocyclohexane;alpha (BHC)	-	-	2	100	0.34	3	-	1
128	hexachlorocyclohexane;beta (BHC)	-	-	2	100	0.34	3	-	1
129	hexachlorocyclohexane;delta (BHC)	-	-	2	100	0.34	3	-	1
130	hexachlorocyclopentadiene	50	PMCLG	2	7	7	3	0.3	1
131	hexachloroethane	1	HA-Lifetime	2	980	940	3	0.25	1
132	2-hexanone	-	-	2	-	-	3	66.6	1
133	hydrazine sulfate	-	-	2	-	-	3	-	1
134	indeno[1,2,3-cd]pyrene	0.2	PMCL	2	-	300	3	-	1
135	isophorone	100	HA-Lifetime	2	117000	12900	3	83.3	1
136	lead	15 ~~5~~	PMCL	2	82	140	3	0.5	1
137	lindane (gamma-BHC)	0.2	PMCLG	2	2	0.16	3	1.6	1
138	malathion	200	HA-Lifetime	2	-	-	3	33.3	1
139	mercury (inorganic)	2	PMCLG	2	2.4	2.1	3	0.3	1
140	mercury (methyl)	2	PMCLG	2	2.4	2.1	3	0.03	1
141	methoxychlor	400	PMCLG	2	-	-	3	33.3	1
142	methyl bromide	10	HA-Lifetime	2	11000	12000	3	66.6	1
143	methyl ethyl ketone (MEK)	200	HA-Lifetime	2	-	-	3	1964.7	1
144	methyl isobutyl ketone (MIBK)	-	-	2	-	-	3	682.7	1
145	methyl parathion	2	HA-Lifetime	2	-	-	3	0.7	1
146	methylene chloride	5	PMCL	2	-	-	3	2	1
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	11	HA-Lifetime	2	-	-	3	-	1
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	-	-	2	-	-	3	-	1
149	2-methylnaphthalene	-	-	2	-	-	3	-	1
150	mirex	-	-	2	-	-	3	-	1
151	naphthalene	20	HA-Lifetime	2	2300	2350	3	166.5	1
152	nickel and compounds	100	PMCLG	2	1400	75	3	3.3	1
153	2-nitroaniline	-	-	2	-	-	3	-	1
154	3-nitroaniline	-	-	2	-	-	3	-	1
155	4-nitroaniline	-	-	2	-	-	3	10	1
156	nitrobenzene	-	-	2	27000	6680	3	16.7	1
157	nitrofurazone	-	-	2	-	-	3	-	1
158	2-nitrophenol	-	-	2	230	4850	3	-	1
159	4-nitrophenol	60	HA-Lifetime	2	230	4850	3	-	1
160	N-nitrosodiethanolamine	-	-	2	5850	3.3E+0	3	-	1
161	N-nitrosodiethylamine	-	-	2	5850	3.3E+0	3	-	1
162	N-nitrosodimethylamine (DMNA)	-	-	2	5850	3.3E+0	3	-	1

	CHEMICAL NAME	Water Solubility (mg/l)	SOURCE	Vapor Pressure (mmHg)	SOURCE	Henry's Constant (atm-m3/mol)	SOURCE
1	acenaphthene	3.4E+00	11	1.6E-03	11	9.2E-05	11
2	acenaphthylene	3.9E+00	11	2.9E-02	11	1.5E-03	11
3	acetone	1.0E+06	11	2.7E+02	11	2.1E-05	11
4	acrolein	2.1E+05	12	2.7E+02	12	4.4E-06	12
5	acrylamide	2.2E+06	12	7.0E-03	12	3.2E-10	12
6	acrylonitrile	7.9E+04	11	1.0E+02	11	8.8E-05	11
7	alachlor	-	11	-	11	-	11
8	aldicarb	-	11	-	11	-	11
9	aldrin	1.8E-01	11	6.0E-06	11	1.6E-05	11
10	ammonia	530000	11	7600	11	0.000321	11
11	aniline	3.6E+04	12	4.9E-01	12	1.4E-01	12
12	anthracene	4.5E-02	11	2.0E-04	11	1.0E-03	11
13	antimony	**	11	1.0E+00	11	-	11
14	aramite	-	11	-	11	-	11
15	arsenic	**	11	0.0E+00	11	-	11
16	asbestos	-	11	-	11	-	11
17	atrazine	-	11	-	11	-	11
18	azobenzene	-	11	-	11	-	11
19	benzene	1.8E+03	11	9.5E+01	11	5.6E-03	11
20	benzidine	4.0E+02	11	5.0E-04	11	3.0E-07	11
21	benzo[a]anthracene	5.7E-03	11	2.2E-08	11	1.2E-06	11
22	benzo[a]pyrene	1.2E-03	11	5.6E-09	11	1.6E-06	11
23	benzo[b]fluoranthene	1.4E-02	11	5.0E-07	11	1.2E-05	11
24	benzo[k]fluoranthene	4.3E-03	11	5.1E-07	11	3.9E-05	11
25	benzo[ghi]perylene	7.0E-04	11	1.0E-10	11	5.3E-08	11
26	benzoic acid	2.7E+03	12	4.5E-03	12	7.0E-08	12
27	benzotrichloride	-	12	2.3E-01	12	-	12
28	benzyl alcohol	4.0E+04	18	-	11	-	11
29	benzyl chloride	3.3E+03	11	1.0E+00	11	5.1E-05	11
30	beryllium	**	11	0.0E+00	11	-	11
31	bis(2-chloroethoxy)methane	8.1E+04	13	1.0E-01	13	-	13
32	bis(2-chloroethyl)ether (BCEE)	1.0E+03	12	1.6E+00	12	2.9E-04	12
33	bis(2-chloroisopropyl) ether	1.7E+03	11	8.5E-01	11	1.1E-04	11
34	bis(chloromethyl)ether (BCME)	2.2E+04	11	3.0E+01	11	2.1E-04	11
35	bis(2-ethylhexyl) phthalate (BEHP)	4.0E-01	15	2.0E-07	15	-	11
36	bromodichloromethane (THM)	4.7E+03	14	5.0E+01	14	1.6E-03	14
37	bromoform (THM)	3.0E+03	11	5.0E+00	11	5.5E-04	11
38	4-bromophenyl phenyl ether	-	13	1.5E-03	13	-	13
39	butyl benzyl phthalate	2.7E+00	12	8.6E-06	12	1.3E-06	12
40	cadmium	**	11	0.0E+00	11	-	11
41	carbazole	-	11	-	11	-	11
42	carbofuran	7.0E+02	18	-	11	-	11
43	carbon disulfide	2.9E+03	11	3.6E+02	11	1.2E-02	11
44	carbon tetrachloride	7.6E+02	11	9.0E+01	11	2.4E-02	11
45	chlordane	5.6E-01	11	1.0E-05	11	9.6E-06	11
46	4-chloroaniline	3.9E+03	12	2.5E-02	12	1.1E-05	12
47	chlorobenzene	4.7E+02	11	1.2E+01	11	3.7E-03	11
48	chloroethane	5.7E+03	14	7.7E+02	14	8.5E-03	14
49	2-chloroethyl vinyl ether	6.0E+03	9	2.7E+01	9	-	9
50	chloroform	8.2E+03	11	1.5E+02	11	2.9E-03	11
51	chloromethane	6.5E+03	9	4.3E+03	12	2.4E-02	12
52	2-chloronapthalene	6.7E+00	9	1.7E-02	9	-	9
53	o-chloronitrobenzene	4.4E+02	12	3.0E-02	12	3.6E-05	12
54	2-chlorophenol	2.8E+04	12	1.4E+00	12	5.6E-07	12

	CHEMICAL NAME	Water Solubility (mg/l)	SOURCE	Vapor Pressure (mmHg)	SOURCE	Henry's Constant (atm-m3/mol)	SOURCE
109	endosulfan (total)	5.3E-01	9	1.0E-05	9	-	9
110	endosulfan sulfate	2.2E-01	13	-	13	-	13
111	endothall	2.1E+05	18	-	11	-	11
112	endrin	2.6E-01	9	2.0E-07	9	-	9
113	endrin ketone	-	11	-	11	-	11
114	epichlorohydrin	6.0E+04	11	1.6E+01	11	3.2E-05	11
115	ethyl acrylate	6.0E+04	18	1.0E+02	18	-	11
116	ethylbenzene	1.5E+02	11	7.0E+00	11	6.4E-03	11
117	ethylene dibromide (EDB)	4.3E+03	11	1.2E+01	11	6.7E-04	11
118	ethylene glycol	1.0E+06	18	-	11	-	11
119	ethylene thiourea	2.0E+03	11	-	11	-	11
120	fluoranthene	2.1E-01	11	5.0E-06	11	6.5E-06	11
121	fluorene	1.7E+00	11	7.1E-04	11	6.4E-05	11
122	folpet	-	11	-	11	-	11
123	heptachlor	1.8E-01	11	3.0E-04	11	8.2E-04	11
124	heptachlor epoxide	3.5E-01	11	3.0E-04	11	4.4E-04	11
125	hexachlorobenzene	6.0E-03	11	1.1E-05	11	6.8E-04	11
126	hexachlorobutadiene	1.5E-01	11	2.0E+00	11	4.6E+00	11
127	hexachlorocyclohexane;alpha (BHC)	1.6E+00	11	2.5E-05	11	5.9E-06	11
128	hexachlorocyclohexane;beta (BHC)	2.4E-01	11	2.8E-07	11	4.5E-07	11
129	hexachlorocyclohexane;delta (BHC)	3.1E+01	11	1.7E-05	11	2.1E-07	11
130	hexachlorocyclopentadiene	2.1E+00	11	8.0E-02	11	1.4E-02	11
131	hexachloroethane	5.0E+01	11	4.0E-01	11	2.5E-03	11
132	2-hexanone	-	11	-	11	-	11
133	hydrazine sulfate	1.0E+06	18	1.4E+01	18	-	11
134	indeno[1,2,3-cd]pyrene	5.3E-04	11	1.0E-10	11	6.9E-08	11
135	isophorone	1.2E+04	14	3.8E-01	14	5.8E-06	14
136	lead	**	11	0.0E+00	11	-	11
137	lindane (gamma-BHC)	7.8E+00	11	1.6E-04	11	7.9E-06	11
138	malathion	1.5E+02	11	4.0E-05	11	-	11
139	mercury (inorganic)	**	11	2.0E-03	11	-	11
140	mercury (methyl)	**	11	-	11	-	11
141	methoxychlor	1.0E-01	18	-	11	-	11
142	methyl bromide	1.8E+04	12	1.6E+03	12	6.2E-03	12
143	methyl ethyl ketone (MEK)	2.7E+05	11	7.8E+01	11	2.7E-05	11
144	methyl isobutyl ketone (MIBK)	2.0E+04	14	1.5E+01	14	9.4E-05	14
145	methyl parathion	6.0E+01	11	9.7E-06	11	5.6E-08	11
146	methylene chloride	2.0E+04	11	3.6E+02	11	2.0E-03	11
147	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	-	11	-	11	-	11
148	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	-	11	-	11	-	11
149	2-methylnaphthalene	-	11	-	11	-	11
150	mirex	-	11	-	11	-	11
151	naphthalene	3.0E+01	9	8.2E-02	9	4.8E-04	9
152	nickel and compounds	**	11	0.0E+00	11	-	11
153	2-nitroaniline	4.7E+03	18	1.0E+02	18	-	11
154	3-nitroaniline	-	11	-	11	-	11
155	4-nitroaniline	8.0E+02	18	3.0E-02	18	-	11
156	nitrobenzene	1.9E+03	11	1.5E-01	11	-	11
157	nitrofurazone	-	11	-	11	-	11
158	2-nitrophenol	2.1E+03	9	1.0E+00	9	3.5E-06	9
159	4-nitrophenol	1.6E+04	9	2.2E+00	9	3.3E-08	9
160	N-nitrosodiethanolamine	-	11	-	11	-	11
161	N-nitrosodiethylamine	-	11	5.0E+00	11	-	11
162	N-nitrosodimethylamine (DMNA)	1.0E+06	11	8.1E+00	11	7.9E-07	11

CHEMICAL SYNONYMS

	CAS NUMBER	CHEMICAL NAME	SYNONYM
1	83-32-9	acenaphthene	
2	208-96-8	acenaphthylene	
3	67-64-1	acetone	
4	107-02-8	acrolein	
5	79-06-1	acrylamide	
6	107-13-1	acrylonitrile	
7	15972-60-8	alachlor	
8	116-06-3	aldicarb	
9	309-00-2	aldrin	
10	7664-41-7	ammonia	
11	62-53-3	aniline	
12	120-12-7	anthracene	
13	7440-36-0	antimony	
14	140-57-8	aramite	
15	7440-38-2	arsenic	
16	1332-21-4	asbestos	
17	1912-24-9	atrazine	
18	103-33-3	azobenzene	
19	71-43-2	benzene	
20	92-87-5	benzidine	
21	56-55-3	benzo[a]anthracene	
22	50-32-8	benzo[a]pyrene	
23	205-99-2	benzo[b]fluoranthene	
24	207-08-9	benzo[k]fluoranthene	
25	191-24-2	benzo[ghi]perylene	
26	65-85-0	benzoic acid	
27	98-07-7	benzotrichloride	
28	100-51-6	benzyl alcohol	
29	100-44-7	benzyl chloride	
30	7440-41-7	beryllium	
31	111-91-1	bis(2-chloroethoxy)methane	
32	111-44-4	bis(2-chloroethyl)ether (BCEE)	
33	108-60-1	bis(2-chloroisopropyl) ether	
34	542-88-1	bis(chloromethyl)ether (BCME)	
35	117-81-7	bis(2-ethylhexyl) phthalate (BEHP)	di(2-ethyl hexyl)phthalate
36	75-27-4	bromodichloromethane (THM)	dichlorobromomethane
37	75-25-2	bromoform (THM)	tribromomethane
38	101-55-3	4-bromophenyl phenyl ether	
39	85-68-7	butyl benzyl phthalate	
40	7440-43-9	cadmium	
41	86748	carbazole	
42	1563-66-2	carbofuran	
43	75-15-0	carbon disulfide	
44	56-23-5	carbon tetrachloride	tetrachloromethane
45	57-74-9	chlordane	Dowchlor
46	106-47-8	4-chloroaniline	p-chloroaniline
47	108-90-7	chlorobenzene	benzene chloride,monochlorobenzene
48	75-00-3	chloroethane	ethyl chloride,monochloroethane
49	110-75-8	2-chloroethyl vinyl ether	(2-chloroxy)ethene
50	67-66-3	chloroform	trichloromethane
51	74-87-3	chloromethane	methyl chloride
52	91-58-7	2-chloronapthalene	beta-chloronapthalene
53	88733	o-chloronitrobenzene	2-chloronitrobenzene
54	95-57-8	2-chlorophenol	o-chlorophenol

	CAS NUMBER	CHEMICAL NAME	SYNONYM
109	115-29-7	endosulfan (total)	
110	1031-07-8	endosulfan sulfate	
111	145-73-3	endothall	
112	72-20-8	endrin	
113	53494-70-5	endrin ketone	
114	106-89-8	epichlorohydrin	
115	96-33-3	ethyl acrylate	
116	100-41-4	ethylbenzene	phenylethane
117	106-93-4	ethylene dibromide (EDB)	1,2-dibromoethane
118	107211	ethylene glycol	
119	96-45-7	ethylene thiourea	
120	206-44-0	fluoranthene	
121	86-73-7	fluorene	
122	133-07-3	folpet	
123	76-44-8	heptachlor	
124	1024-57-3	heptachlor epoxide	
125	118-74-1	hexachlorobenzene	perchlorobenzene
126	87-68-3	hexachlorobutadiene	perchlorobutadiene
127	319-84-6	hexachlorocyclohexane;alpha (BHC)	
128	319-85-7	hexachlorocyclohexane;beta (BHC)	
129	319-86-8	hexachlorocyclohexane;delta (BHC)	
130	77-47-4	hexachlorocyclopentadiene	
131	67-72-1	hexachloroethane	perchloroethane
132	591-78-6	2-hexanone	
133	302-01-2	hydrazine sulfate	hydrazine
134	193-39-5	indeno[1,2,3-cd]pyrene	
135	78-59-1	isophorone	
136	7439-92-1	lead	
137	58-89-9	lindane (gamma-BHC)	
138	121-75-5	malathion	
139	7439-97-6	mercury (inorganic)	
140	22967-92-6	mercury (methyl)	
141	72-43-5	methoxychlor	
142	74-83-9	methyl bromide	bromomethane
143	78-93-3	methyl ethyl ketone (MEK)	2-butanone
144	108-10-1	methyl isobutyl ketone (MIBK)	
145	298-00-0	methyl parathion	
146	75-09-2	methylene chloride	dichloromethane
147	94-74-6	2-methyl-4-chlorophenoxy-acetic acid (MCPA)	
148	93-65-2	2(2-methyl)-4-chlorophenoxy-propionic acid (MCPP)	
149	91-57-6	2-methylnaphthalene	
150	2385-85-5	mirex	
151	91-20-3	naphthalene	
152	7440-02-0	nickel and compounds	
153	88-74-4	2-nitroaniline	
154	99-09-2	3-nitroaniline	
155	100-01-6	4-nitroaniline	
156	98-95-3	nitrobenzene	
157	59870	nitrofurazone	
158	88-75-5	2-nitrophenol	o-nitrophenol
159	100-02-7	4-nitrophenol	p-nitrophenol
160	1116-54-7	N-nitrosodiethanolamine	
161	55-18-5	N-nitrosodiethylamine	
162	62-75-9	N-nitrosodimethylamine (DMNA)	

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Corrections to Toxicology Database for WARM Scoring

Page Number	(Old) WARM Scoring Value	Correct Value
1	As – DE standard = 6	8
4	Pb – DW standard = 8	6
	Pb – Chronic Oral = ND	10
5	TPH-Diesel – DW standard = 6	4
9	PCE – Acute Inhalation = ND	5

Page Number	(Old) Toxicity Data	Correct Value
18	PCE – Acute Inhalation = ND	4000 mg/m^3; LCLo, rat
22	Pb – Chronic Oral = ND	<0.001 mg/kg/day (NOAEL)
30	As – DW standard = 50 ppb	10 ppb
32	Pb – DW standard = 5 ppb	15 ppb
33	TPH-Diesel – DW standard = 20 ppb	160 ppb

Remember: you can always access Ecology's CLARC database at https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx (don't forget the "s" after http) for other chemicals than are not found in the above database, or to check to see if an update has occurred.

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