

Human Health Criteria Pollutants Spreadsheet

Ecology PBT?	Priority Pollutant Number	NTR Chemical Number	Pollutant	CAS Number	Cancer or Non-cancer with SDWA indicator	P/NP*	Current EPA recommendation, Human Health for the consumption of Water + Organism (µg/L)	Current EPA recommendation, Human Health for the consumption of Organism Only (µg/L)	Publication Year	NTR, w/ 1999 PCB revision, Human Health for the consumption of Water + Organism (µg/L)	NTR, w/ 1999 PCB revision, Human Health for the consumption of Organism Only (µg/L)	Ecology Appendix A: Effluent Characterization for Pollutants - EPA methods	Detection Level (DL) (µg/L)	Quantitation Level (QL) (µg/L)	Large POTW A - NTR criteria chemicals only - max value out of approx. 33 sampling events over 8 years (µg/L)	Large POTW B - NTR criteria chemicals only - max of 9 - 20 sampling events over 5 years (µg/L)	Mid-sized POTW C - NTR criteria chemicals only - max of 2 sampling events from 1 year (µg/L)	Small POTW D - NTR criteria chemicals only - max of one sampling event (µg/L)
	114	1	Antimony	7440360	NC	P	5.6 B	640 B	2002	14 a	4300 a	200.8	0.3	1	0.67	0.95		
	115		Arsenic			P									ND	ND	ND	ND
		2	Arsenic (Human health criteria inorganic fraction only)	7440382	C	P	0.018 C,M,S	0.14 C,M,S	1992	0.018 abc	0.14 abc							
	117	3	Beryllium	7440417	References SDWA	P	Z			n	n	200.8	0.1	0.5	ND	ND	ND	ND
	118	4	Cadmium	7440439	NC - References SDWA	P	Z			n	n	200.8	0.05	0.25	ND	ND	ND	ND
	120	6	Copper	7440508	DW	P	1,300 U		1992			200.8	0.4	2	ND	ND	ND	ND
	122	7	Lead	7439921		P				n	n	200.8	0.1	0.5	ND	ND	ND	ND
	124	9	Nickel	7440020	NC	P	610 B	4,600 B	1998	610 a	4600 a	200.8	0.1	0.5	4.45	4.23	ND	ND
	125	10	Selenium	7782492	NC - References SDWA	P	170 Z	4200	2002	n	n	200.8	1	1	ND	ND	ND	ND
	126	11	Silver	7440224	NC							200.8	0.04	0.2	ND	ND	ND	ND
	127	12	Thallium	7440280	NC	P	0.24	0.47	2003	1.7 a	6.3 a	200.8	0.09	0.36	ND	ND	ND	ND
	128	13	Zinc	7440666	NC	P	7,400 U	26,000 U	2002			200.8	0.5	2.5	ND	ND	ND	ND
	121	14	Cyanide	57125	NC	P	140 jj	140 jj	2003	700 a	220000 aj	335.4	5	10	0.028	ND	ND	ND
	116	15	Asbestos	1332214	DW MCL	P	7 million fibers/L l		1991	7,000,000 fibers/L k						ND	ND	ND
Y	129	16	2,3,7,8-TCDD (Dioxin)	1746016	C	P	5.0E-9 C	5.1E-9 C	2002	0.000000013 c	0.000000014 c	1613B	0.0000013	0.000005	ND	ND	ND	ND
	2	17	Acrolein	107028	NC	P	6 ll	9 ll	2009	320	780	624	5	10	ND	ND	ND	ND
	3	18	Acrylonitrile	107131	C	P	0.051 B,C	0.25 B,C	2002	0.059 ac	0.66 ac	624	1	2	ND	ND	ND	ND
	4	19	Benzene	71432	C	P	2.2 B,C	51 B,C	2002	1.2 ac	71 ac	624	1	2	ND	ND	ND	ND
	47	20	Bromoform	75252	C	P	4.3 B,C	140 B,C	2002	4.3 ac	360 ac	624	1	2	ND	ND	ND	ND
	6	21	Carbon Tetrachloride	56235	C	P	0.23 B,C	1.6 B,C	2002	0.25 ac	4.4 ac	624/601 or SM6230B	1	2	ND	ND	ND	ND
	7	22	Chlorobenzene	108907	NC	P	130 Z,U	1,600 U	2003	680 a	21000 aj	624	1	2	ND	ND	ND	ND
	51	23	Chlorodibromomethane	124481	C	P	0.40 B,C	13 B,C	2002	0.41 ac	34 ac	624	2	2	ND	ND	ND	ND
	16	24	Chloroethane	75003		P						624/601	1	2	ND	ND	ND	ND
	19	25	2-Chloroethyvinyl Ether	110758		P						624	1	2	ND	ND	ND	ND
	23	26	Chloroform	67663	C	P	5.7 C,P	470 C,P	2002	5.7 ac	470 ac	624 or SM6210B	1	2	2.18	8.21	ND	ND
	48	27	Dichlorobromomethane	75274	C	P	0.55 B,C	17 B,C	2002	0.27 ac	22 ac	624	1	2	ND	ND	ND	ND
	13	28	1,1-Dichloroethane	75343		P						624	1	2	ND	ND	ND	ND
	10	29	1,2-Dichloroethane	107062	C	P	0.38 B,C	37 B,C	2002	0.38 ac	99 ac	624	1	2	ND	ND	ND	ND

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	29	30	1,1-Dichloroethylene	75354	C	P	330	7100	2003	0.17 ac	3.2 ac	624	1	2	ND	ND	ND	ND
	32	31	1,2-Dichloropropane	78875	C	P	0.50 B,C	15 B,C	2002			624	1	2	ND	ND	ND	ND
		32	1,3-Dichloropropene	542756	C	P	0.34 C	21 C	2003	10. a	1700 a	624	1	2	ND	ND	ND	ND
	38	33	Ethylbenzene	100414	NC	P	530	2100	2003	3100 a	29000 a	624	1	2	ND	ND	ND	ND
	46	34	Methyl Bromide	74839	NC	P	47 B	1,500 B	2002	48 a	4000 a	624/601	5	10	ND	ND	ND	ND
	45	35	Methyl Chloride							n	n	624	1	2	ND	ND	ND	ND
	44	36	Methylene Chloride	75092	C	P	4.6 B,C	590 B,C	2002	4.7	1600	624	5	10	7	ND	ND	ND
	15	37	1,1,2,2-Tetrachloroethane	79345	C	P	0.17 B,C	4.0 B,C	2002	0.17		624	1.9	2	ND	ND	ND	ND
	85	38	Tetrachloroethylene	127184	C	P	0.69 C	3.3 C	2002	0.8	8.85	624	1	2	ND	1.4	ND	ND
	86	39	Toluene	108883	NC - References SDWA	P	1,300 Z	15000	2003	6800	200000	624	1	2	3.86	ND	ND	ND
	30	40	1,2-Trans-Dichloroethylene	156605	NC - References SDWA	P	140 Z	10000	2003			624	1	2	ND	ND	ND	ND
	11	41	1,1,1-Trichloroethane	71556	SDWA	P	Z					624	1	2	ND	ND	ND	ND
	14	42	1,1,2-Trichloroethane	79005	C	P	0.59 B,C	16 B,C	2002	0.6	42	624	1	2	ND	ND	ND	ND
	87	43	Trichloroethylene	79016	C	P	2.5 C	30 C	2002	2.7	81	624	1	2	ND	ND	ND	ND
	88	44	Vinyl Chloride	75014	C	P	0.025 C,kk	2.4 C,kk	2003	2	525	624/SM6200B	1	2	ND	ND	ND	ND
	24	45	2-Chlorophenol	95578	NC	P	81 B,U	150 B,U	2002			625	1	2	ND	ND	ND	ND
	31	46	2,4-Dichlorophenol	120832	NC	P	77 B,U	290 B,U	2002	93	790	625	0.5	1	ND	ND	ND	ND
	34	47	2,4-Dimethylphenol	105679	NC	P	380 B	850 B,U	2002			625	0.5	1	ND	ND	ND	ND
		48	2-Methyl-4,6-Dinitrophenol	534521	NC	P	13	280	2002	13.4	765	625/1625B	1	2	ND	ND	ND	ND
	59	49	2,4-Dinitrophenol	51285	NC	P	69 B	5,300 B	2002	70	14000	625	1	2	ND	ND	ND	ND
	57	50	2-Nitrophenol	88755		P						625	0.5	1	ND	ND	ND	ND
	58	51	4-Nitrophenol	100027		P						625	0.5	1	ND	ND	ND	ND
		52	3-Methyl-4-Chlorophenol	59507	NC	P	U	U				625	1	2	ND	ND	ND	ND
	64	53	Pentachlorophenol	87865	C	P	0.27 B,C	3.0 B,C,H	2002	0.28	8.2	625	0.5	1	ND	ND	ND	ND
	65	54	Phenol	108952	NC	P	10,000 II,U	860,000 II,U	2009	21000	460000	625	2	4	ND	ND	ND	ND
	21	55	2,4,6-Trichlorophenol	88062	C	P	1.4 B,C	2.4 B,C,U	2002	2.1	6.5	625	2	4	ND	ND	ND	ND
	1	56	Acenaphthene	83329	NC	P	670 B,U	990 B,U	2002			625	0.2	0.4	ND	ND	ND	ND
	77	57	Acenaphthylene	208968		P						625	0.3	0.6	ND	ND	ND	ND
	78	58	Anthracene	120127	NC	P	8,300 B	40,000 B	2002	9600	110000	625	0.3	0.6	ND	ND	ND	ND
	5	59	Benzidine	92875	C	P	0.000086 B,C	0.00020 B,C	2002	0.00012	0.00054	625	12	24	ND	ND	ND	ND
	72	60	Benzo(a) Anthracene	56553	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	625	0.3	0.6	ND	ND	ND	ND

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	73	61	Benzo(a) Pyrene	50328	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	610/625	0.5	1	ND	ND	ND	ND
Y	74	62	Benzo(b) Fluoranthene	205992	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	610/625	0.8	1.6	ND	ND	ND	ND
Y	79	63	Benzo(ghi)Perylene	191242		P						610/625	0.5	1	ND	ND	ND	ND
Y	75	64	Benzo(k) Fluoranthene	207089	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	610/625	0.8	1.6	ND	ND	ND	ND
	43	65	Bis(2-Chloroethoxy)Methane	111911		P						625	5.3	21.2	ND	ND	ND	ND
	18	66	Bis(2-Chloroethyl) Ether	111444	C	P	0.030 B,C	0.53 B,C	2002	0.31	1.4	611/625	0.3	1	ND	ND	ND	ND
	42	67	Bis(2-Chloroisopropyl) Ether	108601	NC	P	1,400 B	65,000 B	2002	1400	170000	625	0.3	0.6	ND	ND	ND	ND
	66	68	Bis(2-Ethylhexyl) PhthalateX	117817	C	P	1.2 B,C	2.2 B,C	2002	1.8	5.9	625	0.1	0.5	ND	3.03	ND	ND
	41	69	4-Bromophenyl Phenyl Ether	101553		P						625	0.2	0.4	ND	ND	ND	ND
	67	70	Butylbenzyl PhthalateW	85687	NC	P	1,500 B	1,900 B	2002			625	0.3	0.6	ND	ND	ND	ND
	20	71	2-Chloronaphthalene	91587	NC	P	1,000 B	1,600 B	2002			625	0.3	0.6	ND	ND	ND	ND
	40	72	4-Chorophenyl Phenyl ether	7005723		P						625	0.3	0.5	ND	ND	ND	ND
Y	76	73	Chrysene	218019	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	610/625	0.3	0.6	ND	ND	ND	ND
Y	82	74	Dibenzo(a,h)Anthracene	53703	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	625	0.8	1.6	ND	ND	ND	ND
	25	75	1,2-Dichlorobenzene	95501	NC	P	420	1300	2003	2700	17000	624	1.9	7.6	ND	ND	ND	ND
	26	76	1,3-Dichlorobenzene	541731	NC	P	320	960	2002	400	2600	624	1.9	7.6	ND	ND	ND	ND
	27	77	1,4-Dichlorobenzene	106467	NC	P	63	190	2003	400	2600	624	4.4	17.6	ND	10.1	ND	ND
	28	78	3,3'-Dichlorobenzidine	91941	C	P	0.021 B,C	0.028 B,C	2002	0.04	0.077	605/625	0.5	1	ND	ND	ND	ND
	70	79	Diethyl PhthalateW	84662	NC	P	17,000 B	44,000 B	2002	23000	2900000	625	1.9	7.6	ND	1.6	ND	ND
	71	80	Dimethyl PhthalateW	131113	NC	P	270000	1100000	2002	313000	2900000	625	1.6	6.4	ND	ND	ND	ND
	68	81	Di-n-Butyl PhthalateW	84742	NC	P	2,000 B	4,500 B	2002	2700	12000	625	0.5	1	ND	ND	ND	ND
	35	82	2,4-Dinitrotoluene	121142	C	P	0.11 C	3.4 C	2002	0.11	9.1	609/625	0.2	0.4	ND	ND	ND	ND
	36	83	2,6-Dinitrotoluene	606202		P						609/625	0.2	0.4	ND	ND	ND	ND
	69	84	Di-n-Octyl Phthalate	117840		P						625	0.3	0.6	ND	ND	ND	ND
	37	85	1,2-Diphenylhydrazine	122667	C	P	0.036 B,C	0.20 B,C	2002	0.04	0.54	1625B	5	20	ND	ND	ND	ND
Y	39	86	Fluoranthene	206440	NC	P	130 B	140 B	2002	300	370	625	0.3	0.6	ND	ND	ND	ND
	80	87	Fluorene	86737	NC	P	1,100 B	5,300 B	2002	1300	14000	625	0.3	0.6	ND	ND	ND	ND
Y	9	88	Hexachlorobenzene	118741	C	P	0.00028 B,C	0.00029 B,C	2002	0.00075	0.00077	612/625	0.3	0.6	ND	ND	ND	ND
	52	89	Hexachlorobutadiene	87683	C	P	0.44 B,C	18 B,C	2002	0.44	50	625	0.5	1	ND	ND	ND	ND
	53	90	Hexachlorocyclopentadiene	77474	NC	P	40 U	1,100 U	2003	240	17000	1625B/625	0.5	1	ND	ND	ND	ND
	12	91	Hexachloroethane	67721	C	P	1.4 B,C	3.3 B,C	2002	1.9	8.9	625	0.5	1	ND	ND	ND	ND
Y	83	92	Ideno(1,2,3-cd)Pyrene	193395	C	P	0.0038 B,C	0.018 B,C	2002	0.0028	0.031	610/625	0.5	1	ND	ND	ND	ND
	54	93	Isophorone	78591	C	P	35 B,C	960 B,C	2002	8.4	600	625	0.5	1	ND	ND	ND	ND
	55	94	Napthalene	91203		P						625	0.3	0.6	ND	ND	ND	ND

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	56	95	Nitrobenzene	98953	NC	P	17 B	690 B,H,U	2002	17	1900	625	0.5	1	ND	ND	ND	ND
	61	96	N-Nitrosodimethylamine	62759	C	P	0.00069 B,C	3.0 B,C	2002	0.00069	8.1	607/625	2	4	ND	ND	ND	ND
	63	97	N-Nitrosodi-n-Propylamine	621647	C	P	0.0050 B,C	0.51 B,C	2002			607/625	0.5	1	ND	ND	ND	ND
	62	98	N-Nitrosodiphenylamine	86306	C	P	3.3 B,C	6.0 B,C	2002	5	16	625	0.5	1	ND	ND	ND	ND
	81	99	Phenanthrene	85018		P						625	0.3	0.6	ND	ND	ND	ND
	84	100	Pyrene	129000	NC	P	830 B	4,000 B	2002	960	11000	625	0.3	0.6	ND	ND	ND	ND
	8	101	1,2,4-Trichlorobenzene	120821	NC	P	35	70	2003			625	0.3	0.6	ND	ND	ND	ND
Y	89	102	Aldrin	309002	C	P	0.000049 B,C	0.000050 B,C	2002	0.00013	0.00014	608	0.025	0.05	ND	ND	ND	ND
	102	103	alpha-BHC	319846	C	P	0.0026 B,C	0.0049 B,C	2002	0.0039	0.013	608	0.025	0.05	ND	ND	ND	ND
	103	104	beta-BHC	319857	C	P	0.0091 B,C	0.017 B,C	2002	0.014	0.046	608	0.025	0.05	ND	ND	ND	ND
	104	105	gamma-BHC (Lindane)	58899	C	P	0.98	1.8	2003	0.019	0.063	608	0.025	0.05	ND	ND	ND	ND
	105	106	delta-BHC	319868		P						608	0.025	0.05	ND	ND	ND	ND
	91	107	Chlordane	57749	C	P	0.00080 B,C	0.00081 B,C	2002	0.00057	0.00059	608	0.025	0.05	ND	ND	ND	ND
Y	92	108	4,4'-DDT	50293	C	P	0.00022 B,C	0.00022 B,C	2002	0.00059	0.00059	608	0.025	0.05	ND	ND	ND	ND
	93	109	4,4'-DDE	72559	C	P	0.00022 B,C	0.00022 B,C	2002	0.00059	0.00059	608	0.025	0.05	ND	ND	ND	ND
	94	110	4,4'-DDD	72548	C	P	0.00031 B,C	0.00031 B,C	2002	0.00083	0.00084	608	0.025	0.05	ND	ND	ND	ND
Y	90	111	Dieldrin	60571	C	P	0.000052 B,C	0.000054 B,C	2002	0.00014	0.00014	608	0.025	0.05	ND	ND	ND	ND
	95	112	alpha-Endosulfan	959988	NC	P	62 B	89 B	2002	0.93	2	608	0.025	0.05	ND	ND	ND	ND
	96	113	beta-Endosulfan	33213659	NC	P	62 B	89 B	2002	0.93	2	608	0.025	0.05	ND	ND	ND	ND
	97	114	Endosulfan Sulfate	1031078	NC	P	62 B	89 B	2002	0.93	2	608	0.025	0.05	ND	ND	ND	ND
Y	98	115	Endrin	72208	NC	P	0.059	0.06	2003	0.76	0.81	608	0.025	0.05	ND	ND	ND	ND
	99	116	Endrin Aldehyde	7421934	NC	P	0.29 B	0.30 B,H	2002	0.76	0.81	608	0.025	0.05	ND	ND	ND	ND
Y	100	117	Heptachlor	76448	C	P	0.000079 B,C	0.000079 B,C	2002	0.00021	0.00021	608	0.025	0.05	ND	ND	ND	ND
Y	101	118	Heptachlor Epoxide	1024573	C	P	0.000039 B,C	0.000039 B,C	2002	0.0001	0.0001	608	0.025	0.05	ND	ND	ND	ND
	106	119	PCB-1242	53469219	C	P				0.00044	0.000045	608	0.25	0.5	ND	ND	ND	ND
	107	120	PCB-1254	11097691	C	P				0.00044	0.000045	608	0.25	0.5	ND	ND	ND	ND
	108	121	PCB-1221	11104282	C	P				0.00044	0.000045	608	0.25	0.5	ND	ND	ND	ND
	109	122	PCB-1232	11141165	C	P				0.00044	0.000045	608	0.25	0.5	ND	ND	ND	ND
	110	123	PCB-1248	12672296	C	P				0.00044	0.000045	608	0.25	0.5	ND	ND	ND	ND
	111	124	PCB-1260	110096825	C	P				0.00044	0.000045	608	0.13	0.5	ND	ND	ND	ND
Y	113	126	Toxaphene	8001352	C	P	0.00028 B,C	0.00028 B,C	2002	0.00073	0.00075	608	0.24	0.5	ND	ND	ND	ND
	112	125a	PCB-1016	12674112	C	P												
	119		Chromium (Total)									200.8	0.2	1	ND	ND	ND	ND

Human Health Criteria Pollutants Spreadsheet

Ecology PBT?	Priority Pollutant Number	NTR Chemical Number	Pollutant	CAS Number	Cancer or Non-cancer with SDWA indicator	P/NP*	Current EPA recommendation, Human Health for the consumption of Water + Organism (µg/L)	Current EPA recommendation, Human Health for the consumption of Organism Only (µg/L)	Publication Year	NTR, w/ 1999 PCB revision, Human Health for the consumption of Water + Organism (µg/L)	NTR, w/ 1999 PCB revision, Human Health for the consumption of Organism Only (µg/L)	Ecology Appendix A: Effluent Characterization for Pollutants - EPA methods	Detection Level (DL) (µg/L)	Quantitation Level (QL) (µg/L)	Large POTW A - NTR criteria chemicals only - max value out of approx. 33 sampling events over 8 years (µg/L)	Large POTW B - NTR criteria chemicals only - max of 9 - 20 sampling events over 5 years (µg/L)	Mid-sized POTW C - NTR criteria chemicals only - max of 2 sampling events from 1 year (µg/L)	Small POTW D - NTR criteria chemicals only - max of one sampling event (µg/L)
Y		125b	Polychlorinated Biphenyls (PCBs - total) (1999 update to NTR)		C	P	0.000064 B,C,N	0.000064 B,C,N	2002									
		5a	Chromium (III)	16065831	SDWA	P	Z Total											
		5b	Chromium (VI)	18540299	SDWA	P	Z Total					SM3500-Cr EC	0.3	1.2	ND	ND	ND	ND
	123	8	Mercury	7439976	NC	P				0.14	0.15	1631E	0.0002	0.0005	0.058	0.00825	ND	ND
Y			Methylmercury	22967926	NC			0.3 mg/kg J	2001									
			Alkalinity	—		NP												
			Aluminum pH 6.5 – 9.0	7429905		NP												
			Barium	7440393	NC	NP	1,000 A		1986			200.8	0.5	2				
			Chlorophenoxy Herbicide (2,4-D)	94757	NC - References SDWA	NP	100 Z		1986			6640B						
			Dinitrophenols	25550587	NC	NP	69	5300	2002									
			Ether, Bis(Chloromethyl)	542881	C	NP	0.00010 C	0.00029 C	2002									
			Hexachlorocyclo-hexane-Technical	608731	C		0.0123 H	0.0414H	1980									
			Manganese	7439965	NC	NP	50 O	100 A				200.8	0.1	0.5				
			Methoxychlor	72435	NC - References SDWA	NP	100 A,Z		1986			6630B&C and D3086-90						
			Nitrates	14797558	NC	NP	10,000 A		1986									
			Nitrosamines	—	C	NP	0.0008	1.24	1980									
			Nitrosodibutylamine, T	924163	C	NP	0.0063 C	0.22 C	2002									
			Nitrosodiethylamine, T	55185	C	NP	0.0008 C	1.24 C	2002									
			Nitrosopyrrolidine, T	930552	C	NP	0.016 C	34 C	2002									
Y			Pentachlorobenzene	608935	NC	NP	1.4 E	1.5 E	2002									
			pH	—		NP	5 – 9		1986			SM4500-H+B	N/A	N/A				
			Solids Dissolved and Salinity	—	NC	NP	250,000 A		1986			SM2540 (Total dissolved solids) SM2520-B (Salinity)		20000 and 3PSS				
Y			Tetrachlorobenzene,1,2,4,5-	95943	NC	NP	0.97 B	1.1 B	2002									
			Trichlorophenol,2,4,5-	95954	NC	NP	1,800 B	3,600 B	2002									

Notes for Current EPA recommendation, Human Health**Footnotes**

- A.** This human health criterion is the same as originally published in the Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is now published in the [Gold Book](#).
- B.** This criterion has been revised to reflect The Environmental Protection Agency's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document used to derive the original criterion was retained in each case.
- C.** This criterion is based on carcinogenicity of 10⁻⁶ risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10⁻⁵, move the decimal point in the recommended criterion one place to the right).
- D.** According to the procedures described in the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, except possibly where a very sensitive species is important at a site, freshwater aquatic life should be protected if both conditions specified in Appendix C to the Preamble- Calculation of Freshwater Ammonia Criterion are satisfied.
- F.** The derivation of this value is presented in the [Red Book](#) (EPA 440/9-76-023, July, 1976).
- H.** No criterion for protection of human health from consumption of aquatic organisms excluding water was presented in the 1980 criteria document or in the *1986 Quality Criteria for Water*. Nevertheless, sufficient information was presented in the 1980 document to allow the calculation of a criterion, even though the results of such a calculation were not shown in the document.
- I.** This criterion for asbestos is the Maximum Contaminant Level (MCL) developed under the Safe Drinking Water Act (SDWA).
- J.** This fish tissue residue criterion for methylmercury is based on a total fish consumption rate of 0.0175 kg/day.
- M.** EPA is currently reassessing the criteria for arsenic.
- N.** This criterion applies to total pcbs, (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)
- O.** This criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.
- P.** Although a new RfD is available in IRIS, the surface water criteria will not be revised until the National Primary Drinking Water Regulations: Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) is completed, since public comment on the relative source contribution (RSC) for chloroform is anticipated.
- R.** U.S. EPA. 1973. Water Quality Criteria 1972. EPA-R3-73-033. National Technical Information Service, Springfield, VA.; U.S. EPA. 1977. Temperature Criteria for Freshwater Fish: Protocol and Procedures. EPA 600/3-77-061. National Technical Information Service, Springfield, VA.
- S.** This recommended water quality criterion for arsenic refers to the inorganic form only.
- T.** U.S. EPA. 1986. [Ambient Water Quality Criteria for Dissolved Oxygen](#). EPA 440/5-86-003. National Technical Information Service, Springfield, VA.
- U.** The organoleptic effect criterion is more stringent than the value for priority toxic pollutants.
- Z.** A more stringent Maximum Contaminant Level (MCL) has been issued by EPA under the Safe Drinking Water Act. Refer to drinking water regulations 40CFR141 or Safe Drinking Water Hotline (1-800-426-4791) for values.

- jj.** This recommended water quality criterion is expressed as total cyanide, even though the IRIS RfD we used to derive the criterion is based on free cyanide. The multiple forms of cyanide that are present in ambient water have significant differences in toxicity due to their differing abilities to liberate the CN-moiety. Some complex cyanides require even more extreme conditions than refluxing with sulfuric acid to liberate the CN-moiety. Thus, these complex cyanides are expected to have little or no 'bioavailability' to humans. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g., $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$), this criterion may be over conservative.
- kk.** This recommended water quality criterion was derived using the cancer slope factor of 1.4 (LMS exposure from birth).
- ll.** This criterion has been revised to reflect the Environmental Protection Agency's cancer slope factor (CSF) or reference dose (RfD), as contained in the Integrated Risk Information System (IRIS) as of (date of publication of Final FR Notice). The fish tissue bioconcentration factor (BCF) from the 1980 Ambient Water Quality Criteria document was retained in each case.

Footnotes for NTR Priority Toxic Pollutants (<http://www.gpo.gov/fdsys/pkg/FR-1999-11-09/pdf/99-25559.pdf>)

- a. Criteria revised to reflect current agency q_1^* or RfD, as contained in the Integrated Risk Information System (IRIS). The fish tissue bioconcentration factor (BCF) from the 1980 criteria documents was retained in all cases.
- b. The criteria refers to the inorganic form only.
- c. Criteria in the matrix based on carcinogenicity (10^{-6} risk). For a risk level of 10^{-5} , move the decimal point in the matrix value one place to the right.
- d. These totals simply sum the criteria in each column. For aquatic life, there are 31 priority toxic pollutants with some type of freshwater or saltwater, acute or chronic criteria. For human health, there are 85 priority toxic pollutants with either "water + fish" or "fish only" criteria. Note that these totals count chromium as one pollutant even though EPA has developed criteria based on two valence states. In the matrix, EPA has assigned numbers 5a and 5b to the criteria for chromium to reflect the fact that the list of 126 priority toxic pollutants includes only a single listing for chromium.
- e. If the CCC for total mercury exceeds $0.012 \mu\text{g}/\text{l}$ more than once in a 3-year period in the ambient water, the edible portion of aquatic species of concern must be analyzed to determine whether the concentration of methyl mercury exceeds the FDA action level ($1.0 \text{ mg}/\text{kg}$). If the FDA action level is exceeded, the State must notify the appropriate EPA Regional Administrator, initiate a revision of its mercury criterion in its water quality standards so as to protect designated uses, and take other appropriate action such as issuance of a fish consumption advisory for the affected area.
- f. No criteria for protection of human health from consumption of aquatic organisms (excluding water) was presented in the 1980 criteria document or in the 1986 Quality Criteria for Water. Nevertheless, sufficient information was presented in the 1980 document to allow a calculation of a criterion, even though the results of such a calculation were not shown in the document.
- g. The criterion for asbestos is the MCL (56 FR 3526, January 30, 1991).
- h. EPA is not promulgating human health criteria for this contaminant. However, permit authorities should address this contaminant in NPDES permit actions using the State's existing narrative criteria for toxics.
- i. [Reserved: This letter not used as a footnote.]
- j. Criterion expressed as total recoverable.
- k. This criterion applies to total PCBs (e.g., the sum of all congener or isomer or homolog or Aroclor analyses).