

Proposed Changes to Table 1 in the TSWQS, 307.6

Parameter	CASRN	2006 FW Acute	2006 FW Chronic	2006 SW Acute	2006 SW Chronic	Comments
Aldrin	309-00-2	3.00	No criterion	1.3	No criterion	Remains the same as 2000 WQS
Aluminum (d)	7429-90-5	991.00	No criterion	No criterion	No criterion	Remains the same as 2000 WQS
Arsenic (d)	7440-38-2	340	150	149w	78w	FW - Adopted directly from EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001); SW - Remains the same as 2000 WQS
Cadmium (d)	7440-43-9	$1.136672 \cdot (\ln(\text{hardness})(0.041838)) \cdot \text{we}^{(1.0166(\ln(\text{hardness}))-3.924)}$	$1.101672 \cdot (\ln(\text{hardness})(0.041838)) \cdot \text{we}^{(0.7409(\ln(\text{hardness}))-4.719)}$	40	8.8	FW and SW - Recommended criterion based on EPA's 2001 Update of Ambient Water Quality Criteria for Cadmium (EPA-822-R-01-001); Conversion factor for the chronic freshwater was changed to hardness (CaCo3) based equation (Appendix B of EPA's 2005 National Recommended Water Quality Criteria).
Carbaryl	63-25-2	2.00	No criterion	613	No criterion	Remains the same as 2000 WQS
Chlordane	57-74-9	2.40	0.004	0.09	0.004	Remains the same as 2000 WQS
Chlorpyrifos	2921-88-2	0.083	0.041	0.011	0.006	Remains the same as 2000 WQS
Chromium (Tri) (d)	16065-83-1	$0.316 \cdot \text{we}^{(0.8190(\ln(\text{Hardness}))+3.7256)}$	$0.860 \cdot \text{we}^{(0.8190(\ln(\text{Hardness}))+0.6848)}$	No criterion	No criterion	Based on a 304(a) aquatic life criterion that was issued in the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001, September 1996)
Chromium (Hex) (d)	18540-29-9	15.7w	10.6w	1,090w	49.6w	Remains the same as 2000 WQS
Copper (d)	7440-50-8	$0.960 \cdot \text{me}^{(0.9422(\ln(\text{Hardness}))-1.700)}$	$0.960 \cdot \text{me}^{(0.8545(\ln(\text{Hardness}))-1.702)}$	13.5w	3.6w	FW - Adopted directly from EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001); SW - Remains the same as 2000 WQS; "m" replaces "w" to allow for either biotic ligand model or WER study results
Cyanide (free)	57-12-5	45.80	10.70	5.6	5.6	Remains the same as 2000 WQS
4,4-DDT	50-29-3	1.10	0.001	0.13	0.001	Remains the same as 2000 WQS
Demeton	8065-48-3	No criterion	0.10	No criterion	0.1	Remains the same as 2000 WQS

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Diazinon	333-41-5	0.17	0.17	0.819	0.819	New chemical - adopted directly from EPA's 304(a) as 4 most sensitive species are native
Dicofol	115-32-2	59.30	19.80	No criterion	No criterion	Remains the same as 2000 WQS
Dieldrin	60-57-1	0.299	0.002	0.71	0.002	FW - Recalculated acute national criteria (see Debbie Miller* for spreadsheet). Our current chronic was more stringent so remains the same as in 2000 WQS. SW - Remains the same as 2000 WQS.
Diuron	330-54-1	210.00	70.00	No criterion	No criterion	Remains the same as 2000 WQS
Endosulfan I (alpha)	959-98-8	0.22	0.056	0.034	0.009	Remains the same as 2000 WQS
Endosulfan II (beta)	33213-65-9	0.22	0.056	0.034	0.009	Remains the same as 2000 WQS
Endosulfan sulfate	1031-07-8	0.22	0.056	0.034	0.009	Remains the same as 2000 WQS
Endrin	72-20-8	0.086	0.002	0.037	0.002	FW - Acute value was adopted directly from EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001); our chronic was more stringent so remains the same as 2000 WQS. SW - Remains the same as 2000 WQS.
Guthion	86-50-0	No criterion	0.01	No criterion	0.01	Remains the same as 2000 WQS
Heptachlor	76-44-8	0.52	0.004	0.053	0.004	Remains the same as 2000 WQS
Hexachlorocyclohexane (Lindane)	58-89-9	1.07	0.08	0.16	No criterion	FW - Acute criterion based on recalculation (see Debbie Miller* for spreadsheet) of EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001); chronic more stringent and remains the same as 2000 WQS. SW - Remains the same as 2000 WQS.
Lead (d)	7439-92-1	$1.46203 - (\ln(\text{hardness})(0.145712))e^{(1.273(\ln(\text{Hardness}))-1.460)}$	$1.46203 - (\ln(\text{hardness})(0.145712))e^{(1.273(\ln(\text{Hardness}))-4.705)}$	133w	5.3w	Conversion factor adjusted to hardness (CaCo3) based equation (Appendix B of EPA's 2005 National Recommended Water Quality Criteria); otherwise criteria calculation remains the same as 2000 WQS
Malathion	121-75-5	No criterion	0.01	No criterion	0.01	Remains the same as 2000 WQS

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Mercury	7439-97-6	2.4	1.3	1.8	0.94	SW - Adopted directly from EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001)
Methoxychlor	74-43-5	No criterion	0.03	No criterion	0.03	Remains the same as 2000 WQS
Mirex	2385-85-5	No criterion	0.001	No criterion	0.001	Remains the same as 2000 WQS
Nickel (d)	7440-02-0	$0.998we^{(0.8460(\ln(\text{Hardness}))+2.255)}$	$0.997we^{(0.8460(\ln(\text{Hardness}))+0.0584)}$	118w	13.1w	FW - Recommended criterion is based on a 304(a) aquatic life criterion that was issued in the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001, September 1996); SW - Remains the same as 2000 WQS.
Nonylphenol	84852-15-3 and 25154-52-3	28	6.6	7	1.7	New chemical - adopted directly from EPA's 304(a); 3 of the 4 most sensitive species were native and the 4th was the only amphibian in the species evaluated for the criteria.
Parathion (ethyl)	56-38-2	0.065	0.013	No criterion	No criterion	Remains the same as 2000 WQS
Pentachlorophenol	87-86-5	$e^{(1.005(\text{pH})-4.869)}$	$e^{(1.005(\text{pH})-5.134)}$	15.1	9.6	FW - Adopted directly from EPA's 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water (EPA-820-B-96-001); SW - Remains the same as 2000 WQS
Penanthrene	85-01-8	30.00	30.00	7.7	4.6	Remains the same as 2000 WQS
PCBs [‡]	1336-36-3	2.00	0.01	10	0.03	Remains the same as 2000 WQS
Selenium	7782-49-2	20.00	5.00	564	136	Remains the same as 2000 WQS
Silver (free ion)	7440-22-4	0.8w	No criterion	2w	No criterion	Remains the same as 2000 WQS
Toxaphene	8001-35-2	0.78	0.0002	0.21	0.0002	Remains the same as 2000 WQS
TBT	688-73-3	0.13	0.024	0.24	0.0074	All remain the same except for SW chronic which was lowered in order to protect growth of commercially important molluscs, survival of the copepod <i>Acartis tonsa</i> , and survival of the gastropod <i>Nucella lapillus</i> . (EPA 822-R-03-031; December 2003)

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2,4,5-Trichlorophenol	95-95-4	136.00	64.00	259	12	Remains the same as 2000 WQS
Zinc (d)	7440-66-6	$0.978we^{(0.8473(\ln(\text{Hardness}))+0.884)}$	$0.986we^{(0.8473(\ln(\text{Hardness}))+0.884)}$	92.7w	84.2w	FW - based on a 304(a) aquatic life criterion that was issued in the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, (EPA-820-B-96-001, September 1996); SW - Remains the same as in 2000 WQS.

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‡ These criteria apply to the sum of all congener or all isomer or homolog or Arochlor analysis.