**Table 20 – Revised June 2010**

***WATER QUALITY CRITERIA SUMMARY***

**(Applicable to all Basins)1**

**The concentration for each compound listed in this chart is a criteria or guidance value\* not to be exceeded in waters of the state for the protection of aquatic life and human health. Specific descriptions of each compound and an explanation of values are included in Quality Criteria for Water (1986). Selecting values for regulatory purposes will depend on the most sensitive beneficial use to be protected, and what level of protection is necessary for aquatic life and human health.**

**This June 2010 table includes revisions DEQ adopted in 2004 and EPA approved June 1, 2010. This table therefore shows the effective criteria under state and federal law.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Compound Name (or Class)** | **Priority Pollutant** | **Carcinogen** | **Concentration in Micrograms Per Liter**  **for Protection of Aquatic Life** | | | | **Concentration in Units Per Liter**  **for Protection of Human Health** | | |
| **Fresh Acute Criteria** | **Fresh Chronic Criteria** | **Marine Acute Criteria** | **Marine Chronic Criteria** | **Water**  **and Fish**  **Ingestion** | **Fish**  **Consumption Only** | **Drinking Water M.C.L.** |
| ACENAPTHENE | Y | N | \*1,700 | \*520 | \*970 | \*710 |  |  |  |
| ACROLEIN | Y | N | \*68 | \*21 | \*55 |  | 320ug | 780ug |  |
| ACRYLONITRILE | Y | Y | \*7,550 | \*2,600 |  |  | 0.058ug\*\* | 0.65ug\*\* |  |
| ALDRIN | Y | Y | 3.0 |  | 1.3 |  | 0.074ng\*\* | 0.079ng\*\* |  |
| ALKALINITY | N | N |  | 20,000 |  |  |  |  |  |
| AMMONIA | N | N | CRITERIA ARE pH AND TEMPERATURE DEPENDENT — SEE DOCUMENT USEPA JANUARY 1985 (Fresh Water)  CRITERIA ARE pH AND TEMPERATURE DEPENDENT — SEE DOCUMENT USEPA APRIL 1989 (Marine Water) | | | | | | |
| ANTIMONY | Y | N | \*9,000 | \*1,600 |  |  | 146ug | 45,000ug |  |
| ARSENIC | Y | Y |  |  |  |  | ~~2.2ng\*\*~~  2.3 µg[[1]](#footnote-1) | ~~17.5ng\*\*~~  2.7 µg1 | ~~0.05mg~~  10 µg[[2]](#footnote-2) |
| ARSENIC (PENT) | Y | Y | \*850 | \*48 | \*2,319 | \*13 |  |  |  |
| ARSENIC (TRI) | Y | Y | 360 | 190 | 69 | 36 |  |  |  |
| ASBESTOS | Y | Y |  |  |  |  | 7.0E+06 fibers/L |  |  |
| BARIUM | N | N |  |  |  |  | 1mg |  | 1.0mg |
| BENZENE | Y | Y | \*5,300 |  | \*5,100 | \*700 | 0.66ug\*\* | 40 ug\*\* |  |
| BENZIDINE | Y | Y | \*2,500 |  |  |  | 0.12ng | 0.53ng\*\* |  |
| BERYLLIUM | Y | Y | \*130 | \*5.3 |  |  |  |  |  |
| BHC | Y | N | \*100 |  | \*0.34 |  |  |  |  |
| CADMIUM | Y | N | 3.9+ | 1.1+ | 43 | 9.3 |  |  | 0.010mg |
| CARBON TETRACHLORIDE | Y | Y | \*35,200 | \*50,000 | 0.4ug\*\* | 6.94ug\*\* |  |  |  |
| CHLORDANE | Y | Y | 2.4 | 0.0043 | 0.09 | 0.004 | 0.46ng\*\* | 0.48ng\*\* |  |
| CHLORIDE | N | N | 860 mg/L | 230 mg/L |  |  |  |  |  |
| CHLORINATED BENZENES | Y | Y | \*250 | \*50 | \*160 | \*129 | 488 ug |  |  |
| CHLORINATED NAPHTHALENES | Y | N | \*1,600 |  | \*7.5 |  |  |  |  |
| CHLORINE | N | N | 19 | 11 | 13 | 7.5 |  |  |  |
| CHLOROALKYL ETHERS | Y | N | \*238,000 |  |  |  |  |  |  |
| CHLOROETHYL ETHER (BIS-2) | Y | Y |  |  |  |  | 0.03 ug | 1.36 ug\*\* |  |
| CHLOROFORM | Y | Y | \*28,900 | \*1,240 |  |  | 0.19ug\*\* | 15.7ug\*\* |  |
| CHLOROISOPROPYL ETHER (BIS-2) | Y | N |  |  |  |  | 34.7ug | 4.36mg |  |

***WATER QUALITY CRITERIA SUMMARY (Continued)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Compound Name (or Class)** | **Priority Pollutant** | **Carcinogen** | **Concentration in Micrograms Per Liter**  **for Protection of Aquatic Life** | | | | **Concentration in Units Per Liter**  **for Protection of Human Health** | | |
| **Fresh Acute Criteria** | **Fresh Chronic Criteria** | **Marine Acute Criteria** | **Marine Chronic Criteria** | **Water**  **and Fish**  **Ingestion** | **Fish**  **Consumption Only** | **Drinking Water M.C.L.** |
| CHLOROMETHYL ETHER (BIS) | N | Y |  |  |  |  | 0.00000376ng\*\* | 0.00184ug\*\* |  |
| CHLOROPHENOL 2 | Y | N | \*4,380 | \*2,000 |  |  |  |  |  |
| CHLOROPHENOL 4 | N | N |  |  | \*29,700 |  |  |  |  |
| CHLOROPHENOXY HERBICIDES (2,4,5,-TP) | N | N |  |  |  |  | 10ug |  |  |
| CHLOROPHENOXY HERBICIDES (2,4-D) | N | N |  |  |  |  | 100ug |  |  |
| CHLORPYRIFOS | N | N | 0.083 | 0.041 | 0.011 | 0.0056 |  |  |  |
| CHLORO-4 METHYL-3 PHENOL | N | N | \*30 |  |  |  |  |  |  |
| CHROMIUM (HEX) | Y | N | 16 | 11 | 1,100 | 50 |  |  | 0.05mg |
| CHROMIUM (TRI) | N | N | 1,700.+ | 210.+ | \*10,300 |  |  |  | 0.05mg |
| COPPER | Y | N | 18.+ | 12.+ | 2.9 | 2.9 | 1300 H |  |  |
| CYANIDE | Y | N | 22 | 5.2 | 1 | 1 | 200ug |  |  |
| DDT | Y | Y | 1.1 | 0.001 | 0.13 | 0.001 | 0.024ng\*\* | 0.024ng\*\* |  |
| (DDE) DDT METABOLITE | Y | Y | \*1,050 |  | \*14 |  |  |  |  |
| (TDE) DDT METABOLITE | Y | Y | \*0.06 |  | \*3.6 |  |  |  |  |
| DEMETON | Y | N |  | 0.1 |  | 0.1 |  |  |  |
| DIBUTYLPHTHALATE | Y | N |  |  |  |  | 35mg | 154mg |  |
| DICHLOROBENZENES | Y | N | \*1,120 | \*763 | \*1,970 |  | 400ug | 2.6mg |  |
| DICHLOROBENZIDINE | Y | Y |  |  |  |  | 0.01ug\*\* | 0.020ug\*\* |  |
| DICHLOROETHANE 1,2 | Y | Y | \*118,000 | \*20,000 | \*113,000 |  | 0.94ug\*\* | 243ug\*\* |  |
| DICHLOROETHYLENES | Y | Y | \*11,600 |  | \*224.000 |  | 0.033ug\*\* | 1.85ug\*\* |  |
| DICHLOROPHENOL 2,4 | N | N | \*2,020 | \*365 |  |  | 3.09mg |  |  |
| DICHLOROPROPANE | Y | N | \*23,000 | \*5,700 | \*10,300 | \*3,040 |  |  |  |
| DICHLOROPROPENE | Y | N | \*6,060 | \*244 | \*790 |  | 87ug | 14.1mg |  |
| DIELDRIN | Y | Y | 2.5 | 0.0019 | 0.71 | 0.0019 | 0.071ng\*\* | 0.076ng\*\* |  |
| DIETHYLPHTHALATE | Y | N |  |  |  |  | 350mg | 1.8g |  |
| DIMETHYL PHENOL 2,4 | Y | N | \*2,120 |  |  |  |  |  |  |
| DIMETHYL PHTHALATE | Y | N |  |  |  |  | 313mg | 2.9g |  |
| DINITROTOLUENE 2,4 | N | Y |  |  |  |  | 0.11ug\*\* | 9.1ug\*\* |  |
| DINITROTOLUENE | Y | N |  |  |  |  | 70ug | 14.3mg |  |
| DINITROTOLUENE | N | Y | \*330 | \*230 | \*590 | \*370 |  |  |  |
| DINITRO-O-CRESOL 2,4 | Y | N |  |  |  |  | 13.4g | 765ug |  |
| DIOXIN (2,3,7,8-TCDD) | Y | Y | \*0.01 | \*38pg/L |  |  | 0.000013ng\*\* | 0.000014ng\*\* |  |
| DIPHENYLHYDRAZINE | Y | N |  |  |  |  | 42ng\*\* | 0.56ug\*\* |  |

***WATER QUALITY CRITERIA SUMMARY (Continued)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Priority Pollutant** | **Carcinogen** | **Concentration in Micrograms Per Liter**  **for Protection of Aquatic Life** | | | | **Concentration in Units Per Liter**  **for Protection of Human Health** | | |
| **Fresh Acute Criteria** | **Fresh Chronic Criteria** | **Marine Acute Criteria** | **Marine Chronic Criteria** | **Water**  **and Fish**  **Ingestion** | **Fish**  **Consumption Only** | **Drinking Water M.C.L.** |
| DIPHENYLHYDRAZINE 1,2 | Y | N | \*270 |  |  |  |  |  |  |
| DI-2-ETHYLHEXYL PHTHALATE | Y | N |  |  |  |  | 15mg | 50mg |  |
| ENDOSULFAN | Y | N | 0.22 | 0.056 | 0.034 | 0.0087 | 74ug | 159ug |  |
| ENDRIN | Y | N | 0.18 | 0.0023 | 0.037 | 0.0023 | 1ug |  | 0.0002mg |
| ETHYLBENZENE | Y | N | \*32,000 |  | \*430 |  | 1.4mg | 3.28mg |  |
| FLUORANTHENE | Y | N | \*3,980 |  | \*40 | \*16 | 42ug | 54ug |  |
| GUTHION | N | N |  | 0.01 |  | 0.01 |  |  |  |
| HALOETHERS | Y | N | \*360 | \*122 |  |  |  |  |  |
| HALOMETHANES | Y | Y | \*11,000 |  | \*12,000 | \*6,400 | 0.19ug\*\* | 15.7ug\*\* |  |
| HEPTACHLOR | Y | Y | 0.52 | 0.0038 | 0.053 | 0.0036 | 0.28ng\*\* | 0.29ng\*\* |  |
| HEXACHLOROETHANE | N | Y | \*980 | \*540 | \*940 |  | 1.9ug | 8.74ug |  |
| HEXACHLOROBENZENE | Y | N |  |  |  |  | 0.72ng\*\* | 0.74ng\*\* |  |
| HEXACHLOROBUTADIENE | Y | Y | \*90 | \*9.3 | \*32 |  | 0.45ug\*\* | 50ug\*\* |  |
| HEXACHLOROCYCLOHEXANE (LINDANE) | Y | Y | 2.0 | 0.08 | 0.16 |  |  |  | 0.004mg |
| HEXACHLOROCYCLOHEXANE-ALPHA | Y | Y |  |  |  |  | 9.2ng\*\* | 31ng\*\* |  |
| HEXACHLOROCYCLOHEXANE-BETA | Y | Y |  |  |  |  | 16.3ng\*\* | 54.7ng\*\* |  |
| HEXACHLOROCYCLOHEXANE-GAMA | Y | Y |  |  |  |  | 18.6ng\*\* | 62.5ng\*\* |  |
| HEXACHLOROCYCLOHEXANE-TECHNICAL | Y | Y |  |  |  |  | 12.3ng\*\* J | 41.4ng\*\* J |  |
| HEXACHLOROCYCLOPENTADIENE | Y | N | \*7 | \*5.2 | \*7 |  | 206ug |  |  |
| IRON | N | N |  | 1,000 |  |  | ~~0.3mg K~~ |  |  |
| ISOPHORONE | Y | N | \*117,000 |  | \*12,900 |  | 5.2mg | 520mg |  |
| LEAD | Y | N | 82.+ | 3.2+ | 140 | 5.6 |  |  | 0.05mg |
| MALATHION | N | N |  | 0.1 |  | 0.1 |  |  |  |
| MANGANESE | N | N |  |  |  |  | ~~50ug K~~ | ~~100ug~~  100µg[[3]](#footnote-3) |  |
| MERCURY | Y | N | 2.4 | 0.012 | 2.1 | 0.025 |  |  | 0.002mg |
| METHOXYCHLOR | N | N |  | 0.03 |  | 0.03 | 100ug J |  | 0.1mg |
| MIREX | N | N |  | 0.001 |  | 0.001 |  |  |  |
| MONOCHLOROBENZENE | Y | N |  |  |  |  | 488ug |  |  |
| NAPHTHALENE | Y | N | \*2,300 | \*620 | \*2,350 |  |  |  |  |
| NICKEL | Y | N | 1,400.+ | 160+ | 75 | 8.3 | 13.4ug | 100ug |  |
| NITRATES | N | N |  |  |  |  | 10mg J |  | 10mg |
| NITROBENZENE | Y | N | \*27,000 |  | \*6,680 |  | 19.8mg |  |  |
| NITROPHENOLS | Y | N | \*230 | \*150 | \*4,850 |  |  |  |  |

***WATER QUALITY CRITERIA SUMMARY (Continued)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Compound Name (or Class)** | **Priority Pollutant** | **Carcinogen** | **Concentration in Micrograms Per Liter**  **for Protection of Aquatic Life** | | | | **Concentration in Units Per Liter**  **for Protection of Human Health** | | |
| **Fresh Acute Criteria** | **Fresh Chronic Criteria** | **Marine Acute Criteria** | **Marine Chronic Criteria** | **Water**  **and Fish**  **Ingestion** | **Fish**  **Consumption Only** | **Drinking Water M.C.L.** |
| NITROSAMINES | Y | Y | \*5,850 |  | \*3,300,000 |  | 0.8ng\*\* J | 1,240ng\*\* J |  |
| NITROSODIBUTYLAMINE N | Y | Y |  |  |  |  | 6.4ng\*\* | 587ng\*\* |  |
| NITROSODIETHYLAMINE N | Y | Y |  |  |  |  | 0.8ng\*\* J | 1,240ng\*\* J |  |
| NITROSODIMETHYLAMINE N | Y | Y |  |  |  |  | 1.4ng\*\* | 16,000ng\*\* |  |
| NITROSODIPHENYLAMINE N | Y | Y |  |  |  |  | 4,900ng\*\* | 16,100ng\*\* |  |
| NITROSOPYRROLIDINE N | Y | Y |  |  |  |  | 16ng\*\* | 91,900ng\*\* |  |
| PARATHION | N | N | 0.065 | 0.013 |  |  |  |  |  |
| PCB's | Y | Y | 2.0 | 0.014 | 10 | 0.03 | 0.079ng\*\* | 0.079ng\*\* |  |
| PENTACHLORINATED ETHANES | N | N | \*7,240 | \*1,100 | \*390 | \*281 |  |  |  |
| PENTACHLOROBENZENE | N | N |  |  |  |  | 74ug | 85ug |  |
| PENTACHLOROPHENOL | Y | N | \*\*\*20 | \*\*\*13 | 13 | \*7.9 | 1.01mg |  |  |
| PHENOL | Y | N | \*10,200 | \*2,560 | \*5,800 |  | 3.5mg |  |  |
| PHOSPHORUS ELEMENTAL | N | N |  |  |  | 0.1 |  |  |  |
| PHTHALATE ESTERS | Y | N | \*940 | \*3 | \*2,944 | \*3.4 |  |  |  |
| POLYNUCLEAR AROMATIC HYDROCARBONS | Y | Y |  |  | \*300 |  | 2.8ng\*\* | 31.1ng\*\* |  |
| SELENIUM | Y | N | 260 | 35 | 410 | 54 | 10ug |  | 0.01mg |
| SILVER | Y | N | 4.1+ | 0.12 | 2.3 |  |  |  | 0.05mg |
| SULFIDE HYDROGEN SULFIDE | N | N |  | 2 |  | 2 |  |  |  |
| TETRACHLORINATED ETHANES | Y | N | \*9,320 |  |  |  |  |  |  |
| TETRACHLOROBENZENE 1,2,4,5 | Y | N |  |  |  |  | 38ug | 48ug |  |
| TETRACHLOROETHANE 1,1,2,2 | Y | Y |  | \*2,400 | \*9,020 |  | 0.17ug\*\* | 10.7ug\*\* |  |
| TETRACHLOROETHANES | Y | N | \*9,320 |  |  |  |  |  |  |
| TETRACHLOROETHYLENE | Y | Y | \*5,280 | \*840 | \*10,200 | \*450 | 0.8ug\*\* | 8.85ug\*\* |  |
| TETRACHLOROPHENOL 2,3,5,6 | Y | N |  |  |  | \*440 |  |  |  |
| THALLIUM | Y | N | \*1,400 | \*40 | \*2,130 |  | 13ug | 48ug |  |
| TOLUENE | Y | N | \*17,500 |  | \*6,300 | \*5,000 | 14.3mg | 424mg |  |
| TOXAPHENE | Y | Y | 0.73 | 0.0002 | 0.21 | 0.0002 | 0.71ng\*\* | 0.73ng\*\* | 0.005mg |
| TRICHLORINATED ETHANES | Y | Y | \*18,000 |  |  |  |  |  |  |
| TRICHLOROETHANE 1,1,1 | Y | N |  |  | \*31,2000 |  |  |  |  |
| TRICHLOROETHANE 1,1,2 | Y | Y |  | \*9,400 |  |  | 0.6ug\*\* | 41.8ug\*\* |  |
| TRICHLOROETHYLENE | Y | Y | \*45,000 | \*21,900 | \*2,000 |  | 2.7ug\*\* | 80.7ug\*\* |  |
| TRICHLOROPHENOL 2,4,5 | N | N |  |  |  |  | 2,600ug |  |  |
| TRICHLOROPHENOL 2,4,6 | Y | Y |  | \*970 |  |  | 1.2ug\*\* | 3.6ug\*\* |  |

***WATER QUALITY CRITERIA SUMMARY (Continued)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Compound Name (or Class)** | **Priority Pollutant** | **Carcinogen** | **Concentration in Micrograms Per Liter**  **for Protection of Aquatic Life** | | | | **Concentration in Units Per Liter**  **for Protection of Human Health** | | |
| **Fresh Acute Criteria** | **Fresh Chronic Criteria** | **Marine Acute Criteria** | **Marine Chronic Criteria** | **Water**  **and Fish**  **Ingestion** | **Fish**  **Consumption Only** | **Drinking Water M.C.L.** |
| VINYL CHLORIDE | Y | Y |  |  |  |  | 2ug\*\* | 525ug\*\* |  |
| ZINC | Y | N | 120+ | 110+ | 95 | 86 |  |  |  |

***Footnotes:***

H This value is based on a Drinking Water regulation.

J No bioconcentration factor was available; therefore, this value is based on that published in the 1986 EPA Gold Book.

~~K Human health criterion is for “dissolved” concentration based on the 1976 EPA Red Book conclusion that adverse effects from exposure at this level are aesthetic rather than toxic.~~

**MEANING OF SYMBOLS:**

g = grams M.C.L = Maximum Contaminant Level

mg = milligrams + = Hardness Dependent Criteria (100 mg/L used).

ug = micrograms \* = Insufficient data to develop criteria; value presented is the L.O.E.L – Lower Observed Effect Level.

ng = nanograms \*\* = Human health criteria for carcinogens reported for three risk levels. Value presented is the 10-6

risk level, which means the probability of one concern case per million people at the stated

concentration.

pg = picograms \*\*\* = pH Dependent Criteria (7.8 pH used).

f = fibers

Y = Yes

N = No

1 = Values in Table 20 are applicable to all basins as follows:.

|  |  |  |  |
| --- | --- | --- | --- |
| **Basin** | **Rule** | **Basin** | **Rule** |
| North Coast | 340-041-205(p) | Umatilla | 340-041-645(p) |
| Mid Coast | 340-041-245(p) | Walla Walla | 340-041-685(p) |
| Umpqua | 340-041-285(p) | Grande Ronde | 340-041-725(p) |
| South Coast | 340-041-325(p) | Powder | 340-041-765(p) |
| Rogue | 340-041-365(p) | Malheur River | 340-041-805(p) |
| Willamette | 340-041-445(p) | Owyhee | 340-041-845(p) |
| Sandy | 340-041-485(p) | Malheur Lake | 340-041-885(p) |
| Hood | 340-041-525(p) | Goose & Summer Lakes | 340-041-925(p) |
| Deschutes | 340-041-565(p) | Klamath | 340-041-965(p) |
| John Day | 340-041-605(p) |  |  |

***Water and Fish Ingestion:*** Values represent the maximum ambient water concentration for consumption of both contaminated water and fish or other aquatic organisms.

***Fish Ingestion:*** Values represent the maximum ambient water concentrations for consumption of fish or other aquatic organisms

1. This arsenic criterion is for inorganic arsenic. [↑](#footnote-ref-1)
2. The arsenic value is shown here for informational purposes only and is not a water quality criterion. [↑](#footnote-ref-2)
3. The “fish consumption only” criterion for manganese applies only to marine waters. [↑](#footnote-ref-3)