# ATTACHMENT B

# ECOLOGICAL BENCHMARKS AND HUMAN HEALTH RISK-BASED CONCENTRATIONS

**Table B-1**

**Soil Toxicity Benchmarks for Terrestrial Ecological Receptors**

| **Analytes** | EcoSSL Mammals (mg/kg dw) | EcoSSL Birds (mg/kg dw) | **Wildlife Screening Level Benchmark (mg/kg)** | EcoSSL Plants (mg/kg dw) | ORNL Plants (mg/kg dw) | **Plant Screening Level Benchmark (mg/kg)** | EcoSSL Invertebrates (mg/kg dw) | ORNL Invertebrates (mg/kg dw) | **Invertebrate Screening Level Benchmark (mg/kg)** | **Lowest Screening Level Benchmark (mg/kg)** |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | -- | -- | (a) | (a) | 50 | (a) | (a) | -- | (a) | (a) |
| Antimony | 0.27 | -- | 0.27 | -- | 5.0 | 5.0 | 78 | -- | 78 | 0.27 |
| Arsenic | 46 | 43 | 43 | 18 | 10 | 18 | -- | 60 | 60 | 18 |
| Barium | 2000 | -- | 2000 | -- | 500 | 500 | 330 | -- | 330 | 330 |
| Beryllium | 21 | -- | 21 | -- | 10 | 10 | 40 | -- | 40 | 10 |
| Cadmium | 0.36 | 0.77 | 0.36 | 32 | 4.0 | 32.0 | 140 | 20 | 140 | 0.36 |
| Chromium | 34 | 26.0 | 26.0 | -- | 1.0 | 1.0 | -- | 0.4 | 0.4 | 0.4 |
| Cobalt | 230 | 120 | 120 | 13 | 20 | 13 | -- | -- | no benchmark | 13 |
| Copper | 49 | 28 | 28 | 70 | 100 | 70 | 80 | 50 | 80 | 28 |
| Iron | -- | -- | (b) | (b) | -- | (b) | (b) | -- | (b) | (b) |
| Lead | 56 | 11 | 11 | 120 | 50 | 120 | 1700 | 500 | 1,700 | 11 |
| Manganese | 4000 | 4300 | 4000 | 220 | 500 | 220 | 450 | -- | 450 | 220 |
| Mercury | -- | -- | no benchmark | -- | 0.3 | 0.3 | -- | 0.1 | 0.1 | 0.1 |
| Nickel | 170 | 210 | 170 | 38 | 30 | 38 | 280 | 200 | 280 | 38 |
| Selenium | 0.63 | 1.7 | 0.6 | 0.52 | 1.0 | 0.5 | 4.1 | 70 | 4.1 | 0.52 |
| Silver | 14 | 4.2 | 4.2 | -- | 2.0 | 2.0 | -- | -- | no benchmark | 2.0 |
| Thallium | -- | -- | no benchmark | -- | 1 | 1 | -- | -- | no benchmark | 1.0 |
| Vanadium | 280 | 7.8 | 7.8 | -- | 2 | 2 | -- | -- | no benchmark | 2.0 |
| Zinc | 79 | 42 | 42 | 160 | 50 | 160 | 120 | 100 | 120 | 42 |
| Petroleum Hydrocarbons | -- | -- | no benchmark | -- | -- | no benchmark | -- | -- | no benchmark | no benchmark |
| Total PCBs | -- | -- | 0.071 (c) | -- | 40 | 0.02 (d) | -- | -- | no benchmark | 0.02 |

*(a) The Eco-SSL for aluminum consists of a narrative statement. Aluminum is considered to be a contaminant of potential concern under conditions where soil pH is less than 5.5.*

*(b) A numeric Eco-SSL for iron was not derived. The potential toxicity of iron in soils is dependant on soil pH and Eh.*

*(c) Based on the lowest reported NOAEL benchmark for food ingestion (short-tailed shrew) presented in Sample et al. (1996).*

*(d) Based on the Dutch Target Value presented in Swartjes (1999).*

**Table B-2**
**Surface Water Toxicity Benchmarks for Aquatic Receptors**

| Analyte Type | Analyte | ACUTE | | | | CHRONIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | NAWQC - Acute (ug/L) [1] | GLWQI Tier II SAV (ug/L) [2] | USEPA R4 - Acute (ug/L) [2] | **Surface Water Acute Benchmark (ug/L)** | NAWQC - Chronic (ug/L) [1] | GLWQI Tier II SCV (ug/L) [2] | USEPA R4 - Chronic (ug/L) [2] | Other (ug/L) [2] | **Surface Water Chronic Benchmark (ug/L)** |
| Inorganics | Aluminum | 750 [6] | -- | 750 | 750 | 87 | -- | 87 | -- | 87 |
| | Antimony | -- | 180 | 1300 | 180 | -- | 30 | 160 | -- | 30 |
| | Arsenic | 340 [9, 10] | -- | 360 | 340 | 150 [9, 10] | -- | 190 | -- | 150 |
| | Barium | 50,000 [8] | 110 | -- | 50,000 | 5,000 [3] | -- | -- | -- | 5,000 |
| | Beryllium | -- | 35 | 16 | 35 | -- | 0.66 | 0.53 | -- | 0.66 |
| | Boron | -- | 30 | -- | 30 | -- | 1.6 | --[13] | 8,830 LCV Daphnids | 1.60 |
| | Cadmium | 0.5 [4, 10] | -- | 3.92 | 0.52 | 0.09 [4, 10] | -- | 1.1 | -- | 0.09 |
| | Calcium | -- | -- | -- | no benchmark | -- | -- | -- | 116,000 LCV Daphnids | 116000 |
| | Chromium III | 183 [4, 10] | -- | 1,740 | 183 | 24 [4, 10] | -- | 207 | -- | 24 |
| | Chromium VI | 16 [10] | -- | 16 | 16 | 10.6 [10] | -- | 11 | -- | 11 |
| | Cobalt | -- | 1,500 | -- | 1,500 | -- | 23 | -- | -- | 23 |
| | Copper | 4 [4, 10] | -- | 17.7 | 4 | 2.74 [4, 10] | -- | 11.8 | -- | 3 |
| | Cyanide | 22 [12] | -- | 22 | 22 | 5.2 [12] | -- | 5.2 | 5.0 | 5.2 |
| | Iron | -- | -- | -- | no benchmark | 1,000 | -- | 1,000 | 300 CCME WQG | 1,000 |
| | Lead | 14 [4, 10] | -- | 81.6 | 14 | 0.54 [4, 10] | -- | 3.18 | -- | 0.5 |
| | Magnesium | -- | -- | -- | no benchmark | -- | -- | -- | 82,000 LCV Daphnids | 82,000 |
| | Manganese | -- | 2,300 | -- | 2,300 | -- | 120 | -- | -- | 120 |
| | Mercury | 1.2 | -- | 2.4 | 1.2 | 0.65 | 1.3 | 0.012 | -- | 0.65 |
| | Molybdenum | -- | 16,000 | -- | 16,000 | -- | 370 | -- | -- | 370 |
| | Nickel | 145 [4, 10] | -- | 1420 | 145 | 16.1 [4, 10] | -- | 158 | -- | 16 |
| | Potassium | -- | -- | -- | no benchmark | -- | -- | -- | 53,000 LCV Daphnids | 53,000 |
| | Selenium | 19 [11] | -- | 20 | 19 | 5.0 [11] | -- | 5.0 | -- | 5.0 |
| | Silver | 0.3 [4, 10] | -- | 4.1 | 0.3 | 0.0 [3] | 0.36 | 0.012 | -- | 0.0 |
| | Sodium | -- | -- | -- | no benchmark | -- | -- | -- | 680,000 LCV Daphnids | 680,000 |
| | Thallium | -- | 110 | 140 | 110 | -- | 12 | 4 | -- | 12 |
| | Vanadium | -- | 280 | -- | 280 | -- | 20 | -- | -- | 20 |
| | Zinc | 36 [4, 10] | -- | 117 | 36 | 36 [4, 10] | -- | 106 | -- | 36 |
| Polychlorinated Biphenyls (PCBs) | PCB-1016 | -- | -- | 0.2 | 0.2 | -- | -- | 0.014 | -- | 0.014 |
| | PCB-1221 | -- | 5 | 0.2 | 5 | -- | 0.28 | 0.014 | -- | 0.28 |
| | PCB-1232 | -- | 10 | 0.2 | 10 | -- | 0.58 | 0.014 | -- | 0.58 |
| | PCB-1242 | -- | 1.2 | 0.2 | 1.2 | -- | 0.053 | 0.014 | -- | 0.053 |
| | PCB-1248 | -- | 1.4 | 0.2 | 1.4 | -- | 0.081 | 0.014 | -- | 0.081 |
| | PCB-1254 | -- | 0.6 | 0.2 | 0.6 | -- | 0.033 | 0.014 | -- | 0.033 |
| | PCB-1260 | -- | 1700 | 0.2 | 1700 | -- | 94 | 0.014 | -- | 94 |
| Petroleum Hydro-carbons | Total Petroleum Hydrocarbons | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| Pesticides | 4,4-DDD | -- | 0.19 | 0.064 | 0.2 | -- | 0.011 | 0.0064 | -- | 0.011 |
| | 4,4-DDE | -- | -- | 105 | 105.0 | -- | -- | 10.5 | -- | 10.5 |
| | 4,4-DDT | 1.1 | -- | 1.1 | 1.1 | -- | 0.013 | 0.001 | -- | 0.013 |
| | Aldrin | 3 | -- | 3 | 3.0 | 0.3 [3] | -- | 0.3 | -- | 0.3 |
| | BHC, alpha | -- | -- | -- | no benchmark | -- | -- | 500 | -- | 500 |
| | BHC, beta | -- | -- | -- | no benchmark | -- | -- | 5000 | -- | 5000 |
| | BHC, delta | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | BHC, gamma (Lindane) | 0.95 | -- | 2 | 1.0 | 0.095 [3] | -- | 0.08 | -- | 0.095 |
| | Chlordane | 2.4 | -- | 2.4 | 2.4 | 0.0043 | -- | 0.0043 | -- | 0.0043 |
| | Dieldrin | 0.24 | -- | 2.5 | 0.2 | 0.056 | -- | 0.0019 | -- | 0.056 |

**Table B-2**
**Surface Water Toxicity Benchmarks for Aquatic Receptors**

| Analyte Type | Analyte | ACUTE | | | | CHRONIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | NAWQC - Acute (ug/L) [1] | GLWQI Tier II SAV (ug/L) [2] | USEPA R4 - Acute (ug/L) [2] | **Surface Water Acute Benchmark (ug/L)** | NAWQC - Chronic (ug/L) [1] | GLWQI Tier II SCV (ug/L) [2] | USEPA R4 - Chronic (ug/L) [2] | Other (ug/L) [2] | **Surface Water Chronic Benchmark (ug/L)** |
| Clorinated | Endosulfan I | 0.22 | -- | -- | 0.2 | 0.056 | -- | -- | -- | 0.056 |
| | Endosulfan II | 0.22 | -- | -- | 0.2 | 0.056 | -- | -- | -- | 0.056 |
| | Endosulfan sulfate | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Endrin | 0.086 | -- | 0.18 | 0.1 | 0.036 | -- | 0.0023 | -- | 0.036 |
| | Endrin aldehyde | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Heptachlor | 0.52 | 0.125 | 0.52 | 0.5 | 0.0038 | 0.0069 | 0.0038 | -- | 0.0038 |
| | Heptachlor epoxide | 0.52 | -- | -- | 0.5 | 0.0038 | -- | -- | -- | 0.0038 |
| | Isodrin | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methoxychlor | -- | -- | -- | no benchmark | 0.03 | 0.019 | 0.03 | -- | 0.03 |
| | Toxaphene | 0.73 | -- | 0.73 | 0.7 | 0.0002 | -- | 0.0002 | -- | 0.0002 |
| Organophosphorus Pesticides | Atrazine | -- | -- | -- | no benchmark | -- | -- | -- | 1.8 CCME WQG | 1.8 |
| | Chloropyrifos | 0.083 | -- | 0.083 | 0.083 | 0.041 | -- | 0.041 | -- | 0.041 |
| | Demeton | -- | -- | -- | no benchmark | 0.1 | -- | 0.1 | -- | 0.1 |
| | Diazinon | -- | 0.17 | -- | 0.17 | -- | 0.043 | -- | -- | 0.043 |
| | Dimethoate | -- | -- | -- | no benchmark | -- | -- | -- | 6.2 CCME WQG | 6.2 |
| | Disulfoton | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Famphur | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Guthion | -- | -- | -- | no benchmark | 0.01 | -- | 0.01 | -- | 0.01 |
| | Methyl parathion | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Thionazin (Zinophos) | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Parathion | 0.065 | -- | 0.065 | 0.065 | 0.013 | -- | 0.013 | -- | 0.013 |
| | Phorate | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Simazine | -- | -- | -- | no benchmark | -- | -- | -- | 100 CCME WQG | 100 |
| | Sulfotepp | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| Polycyclic Aromatic Hydrocarbons (PAHs) | 2-Chloronaphthalene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2-Methylnaphthalene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Acenaphthene | -- | -- | 170 | 170 | -- | -- | 17 | -- | 17 |
| | Acenaphthylene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Aniline | -- | -- | -- | no benchmark | -- | -- | -- | 2.2 CCME WQG | 2.2 |
| | Anthracene | -- | 13 | -- | 13 | -- | 0.73 | -- | -- | 0.73 |
| | Benz[a]anthracene | -- | 0.49 | -- | 0.49 | -- | 0.027 | -- | -- | 0.027 |
| | Benzo(ghi)perylene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Benzo[a]pyrene | -- | 0.24 | -- | 0.24 | -- | 0.014 | -- | -- | 0.014 |
| | Benzo[b]fluoranthene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Benzo[k]fluoranthene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Chrysene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Dibenz[ah]anthracene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Dibenzofuran | -- | 66 | -- | 66 | -- | 3.7 | -- | -- | 3.7 |
| | Fluoranthene | -- | -- | 398 | 398 | -- | -- | 39.8 | -- | 39.8 |
| | Fluorene | -- | 70 | -- | 70 | -- | 3.9 | -- | -- | 3.9 |
| | Indeno[1,2,3-cd]pyrene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Naphthalene | -- | 190 | 230 | 190 | -- | 12 | 62 | -- | 12 |
| | Phenanthrene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Pyrene | -- | -- | -- | no benchmark | -- | -- | -- | 0.025 CCME WQG | 0.025 |
| | 1,2,4-Trichlorobenzene | -- | 700 | 150 | 700 | -- | 110 | 44.9 | -- | 110 |
| | 1,2-Dichlorobenzene | -- | 260 | 158 | 260 | -- | 14 | 15.8 | -- | 14 |
| | 1,3-Dichlorobenzene | -- | 630 | 502 | 630 | -- | 71 | 50.2 | -- | 71 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | NAWQC - Acute (ug/L) [1] | GLWQI Tier II SAV (ug/L) [2] | USEPA R4 - Acute (ug/L) [2] | **Surface Water Acute Benchmark (ug/L)** | NAWQC - Chronic (ug/L) [1] | GLWQI Tier II SCV (ug/L) [2] | USEPA R4 - Chronic (ug/L) [2] | Other (ug/L) [2] | **Surface Water Chronic Benchmark (ug/L)** |
| Semi-Volatile Organic Compound (SVOCs) | 1,4-Dichlorobenzene | -- | 180 | 112 | 180 | -- | 15 | 11.2 | -- | 15 |
| | 1-Methylnaphthalene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2,4,5-Trichlorophenol | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2,4,6-Trichlorophenol | -- | -- | 32 | 32 | -- | -- | 3.2 | -- | 3.2 |
| | 2,4-Dichlorophenol | -- | -- | 202 | 202 | -- | -- | 36.5 | -- | 36.5 |
| | 2,4-Dimethylphenol | -- | -- | 212 | 212 | -- | -- | 21.2 | -- | 21.2 |
| | 2,4-Dinitrophenol | -- | -- | 62 | 62 | -- | -- | 6.2 | -- | 6.2 |
| | 2,4-Dinitrotoluene | -- | -- | 3100 | 3100 | -- | -- | 310 | -- | 310 |
| | 2,6-Dinitrotoluene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2-Chlorophenol | -- | -- | 438 | 438 | -- | -- | 43.8 | -- | 43.8 |
| | 2-Methyl-4,6-dinitrophenol | -- | -- | 23 | 23 | -- | -- | 2.3 | -- | 2.3 |
| | 2-Methylphenol | -- | 230 | -- | 230 | -- | 13 | -- | -- | 13 |
| | 2-Nitroaniline | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2-Nitrophenol | -- | -- | -- | no benchmark | -- | -- | 3500 | -- | 3500 |
| | 3,3-Dichlorobenzidine | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 3-Methyl-4-chlorophenol | -- | -- | 3 | 3 | -- | -- | 0.3 | -- | 0.3 |
| | 4-Bromophenyl-phenyl ether | -- | -- | -- | no benchmark | -- | 1.5 | -- | -- | 1.5 |
| | 4-Chloroaniline | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 4-Chlorophenyl phenyl ether | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 4-Methylphenol | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 4-Nitrophenol | -- | 1200 | 828 | 1200 | -- | 300 | 82.8 | -- | 300 |
| | Benzyl alcohol | -- | 150 | -- | 150 | -- | 8.6 | -- | -- | 8.6 |
| | Bis(2-chloroethoxy) methane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Bis(2-chloroethyl)ether | -- | -- | 23800 | 23800 | -- | -- | 2380 | -- | 2380 |
| | Bis(2-ethylhexyl)phthalate (DEHP) | -- | 27 | 1110 | 27 | -- | 3 | 0.3 | -- | 3 |
| | Bis-2-chloro-1-methylethyl ether | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Butyl benzyl phthalate | -- | -- | 330 | 330 | -- | 19 | 22 | -- | 19 |
| | Carbazole | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Dibutyl phthalate | -- | 190 | 94 | 190 | -- | 35 | 9.4 | -- | 35 |
| | Diethyl phthalate | -- | 1800 | 5210 | 1800 | -- | 210 | 521 | -- | 210 |
| | Dimethyl phthalate | -- | -- | 3300 | 3300 | -- | -- | 330 | -- | 330 |
| | Di-n-octylphthalate | -- | -- | -- | no benchmark | -- | -- | -- | 100 EC20 Fish | 100 |
| | Hexachlorobenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Hexachlorobutadiene | -- | -- | 9 | 9 | -- | -- | 0.93 | -- | 0.93 |
| | Hexachlorocyclopentadiene | -- | -- | 0.7 | 0.7 | -- | -- | 0.07 | -- | 0.07 |
| | Hexachloroethane | -- | 210 | 98 | 210 | -- | 12 | 9.8 | -- | 12 |
| | Isophorone | -- | -- | 11700 | 11700 | -- | -- | 1170 | -- | 1170 |
| | Nitroaniline [m-] | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Nitroaniline [p-] | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Nitrobenzene | -- | -- | 2700 | 2700 | -- | -- | 270 | -- | 270 |
| | Nitroso-di-n-propylamine [N-] | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Nitrosodiphenylamine [N-] | -- | 3800 | 585 | 3800 | -- | 210 | 58.5 | -- | 210 |
| | Pentachlorophenol (PCP) | 19 [14] | -- | 20 | 19 | 15 [14] | -- | 13 | -- | 15 |
| | Phenol | -- | -- | 1020 | 1020 | -- | -- | 256 | -- | 256 |
| | 1,1,1,2-Tetrachloroethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,1,1-Trichloroethane | -- | 200 | 5280 | 200 | -- | 11 | 528 | -- | 11 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | NAWQC - Acute (ug/L) [1] | GLWQI Tier II SAV (ug/L) [2] | USEPA R4 - Acute (ug/L) [2] | **Surface Water Acute Benchmark (ug/L)** | NAWQC - Chronic (ug/L) [1] | GLWQI Tier II SCV (ug/L) [2] | USEPA R4 - Chronic (ug/L) [2] | Other (ug/L) [2] | **Surface Water Chronic Benchmark (ug/L)** |
| Volatile Organic Compounds (VOCs) | 1,1,2,2-Tetrachloroethane | -- | 2100 | 932 | 2100 | -- | 610 | 240 | -- | 610 |
| | 1,1,2-Trichloroethane | -- | 5200 | 3600 | 5200 | -- | 1200 | 940 | -- | 1200 |
| | 1,1-Dichloroethane | -- | 830 | -- | 830 | -- | 47 | -- | -- | 47 |
| | 1,1-Dichloroethene | -- | 450 | 3030 | 450 | -- | 25 | 303 | -- | 25 |
| | 1,1-Dichloropropene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,2,3-Trichlorobenzene | -- | -- | -- | no benchmark | -- | -- | -- | 8 CCME WQG | 8 |
| | 1,2,3-Trichloropropane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,2,4-Trimethylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,2-Dibromo-3-chloropropane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,2-Dibromoethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,2-Dichloroethane | -- | 8800 | 11800 | 8800 | -- | 910 | 2000 | -- | 910 |
| | 1,2-Dichloroethene | -- | 1100 | 13500 | 1100 | -- | 590 | 1350 | -- | 590 |
| | 1,2-Dichloropropane | -- | -- | 5250 | 5250 | -- | -- | 525 | -- | 525 |
| | 1,3,5-Trimethylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,3-Dichloropropane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 1,4-Dioxane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2,2-Dichloropropane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2-Butanone | -- | 240000 | -- | 240000 | -- | 14000 | -- | -- | 14000 |
| | 2-Chloroethylvinyl ether | -- | -- | 35400 | 35400 | -- | -- | 3540 | -- | 3540 |
| | 2-Chlorotoluene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 2-Hexanone | -- | 1800 | -- | 1800 | -- | 99 | -- | -- | 99 |
| | 4-Chlorotoluene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | 4-Methyl-2-pentanone | -- | 2200 | -- | 2200 | -- | 170 | -- | -- | 170 |
| | Acetone | -- | 28000 | -- | 28000 | -- | 1500 | -- | -- | 1500 |
| | Acetonitrile | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Acrolein | -- | -- | 6.8 | 6.8 | -- | -- | 2.1 | -- | 2.1 |
| | Acrylonitrile | -- | -- | 755 | 755 | -- | -- | 75.5 | -- | 75.5 |
| | Allyl chloride | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Benzene | -- | 2300 | 530 | 2300 | -- | 130 | 53 | -- | 130 |
| | Benzene, Ethylmethyl | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Bromobenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Bromodichloromethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Bromoform | -- | 2300 | 2930 | 2300 | -- | 320 | 293 | -- | 320 |
| | Carbon disulfide | -- | 17 | -- | 17 | -- | 0.92 | -- | -- | 0.92 |
| | Carbon tetrachloride | -- | 180 | 3520 | 180 | -- | 9.8 | 352 | -- | 9.8 |
| | Chlorobenzene | -- | 1100 | 1950 | 1100 | -- | 64 | 195 | -- | 64 |
| | Chloroethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Chloroform | -- | 490 | 2890 | 490 | -- | 28 | 289 | -- | 28 |
| | Chloroprene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | cis-1,2-Dichloroethene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | cis-1,3-Dichloropropene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Dibromochloromethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Dichlorodifluoromethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Ethyl methacrylate | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Ethylbenzene | -- | 130 | 4530 | 130 | -- | 7.3 | 453 | -- | 7.3 |
| | Hexane | -- | 10 | -- | 10 | -- | 0.58 | -- | -- | 0.58 |

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| Analyte Type | Analyte | ACUTE | | | | CHRONIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | NAWQC - Acute (ug/L) [1] | GLWQI Tier II SAV (ug/L) [2] | USEPA R4 - Acute (ug/L) [2] | **Surface Water Acute Benchmark (ug/L)** | NAWQC - Chronic (ug/L) [1] | GLWQI Tier II SCV (ug/L) [2] | USEPA R4 - Chronic (ug/L) [2] | Other (ug/L) [2] | **Surface Water Chronic Benchmark (ug/L)** |
| | Isobutanol | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methacrylonitrile | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methyl bromide | -- | -- | 1100 | 1100 | -- | -- | 110 | -- | 110 |
| | Methyl chloride | -- | -- | 55000 | 55000 | -- | -- | 5500 | -- | 5500 |
| | Methyl iodide | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methyl methacrylate | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methylene bromide | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Methylene chloride | -- | 26000 | 19300 | 26000 | -- | 2200 | 1930 | -- | 2200 |
| | MTBE | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | n-Butylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | n-Propylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | sec-Butylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Styrene | -- | -- | -- | no benchmark | -- | -- | -- | 72 CCME WQG | 72 |
| | tert-Butylbenzene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Tetrachloroethylene (PCE) | -- | 830 | 528 | 830 | -- | 98 | 84 | -- | 98 |
| | Toluene | -- | 120 | 1750 | 120 | -- | 9.8 | 175 | -- | 9.8 |
| | trans-1,2-Dichloroethene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | trans-1,3-Dichloropropene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | trans-1,4-Dichloro-2-butene | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Trichloroethylene (TCE) | -- | 440 | -- | 440 | -- | 47 | -- | -- | 47 |
| | Trichlorofluoromethane | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Vinyl acetate | -- | 280 | -- | 280 | -- | 16 | -- | -- | 16 |
| | Vinyl chloride | -- | -- | -- | no benchmark | -- | -- | -- | -- | no benchmark |
| | Xylene [o] | -- | 230 | -- | 230 | -- | 13 | -- | -- | 13 |
| | Xylene [p,m] | -- | 32 | -- | 32 | -- | 1.8 | -- | -- | 1.8 |
| | Xylene, Total | -- | 230 | -- | 230 | -- | 13 | -- | -- | 13 |

1 USEPA, 2002. National Recommended Water Quality Criteria: 2002. November 2002. EPA 822-R-02-047.
2 Suter & Tsao, 1996.
3 Only acute NAWQC available; chronic NAWQC is equal to acute / 10.
4 Metal toxicity is hardness-dependent; values shown are calculated based on a hardness of 25 mg/L.
5 National Irrigation Water Quality Program (1998)
6 Aluminum NAWQC apply to waters with pH of 6.5 - 9.0.
7 Alkalinity NAWQC is the minimum required value.
8 Based on USEPA Gold Book value.
9 NAWQC derived from data for As 3+, but is applied here to total arsenic.
10 NAWQC expressed in terms of the dissolved fraction.
11 NAWQC expressed in terms of the total recoverable fraction.
12 NAWQC expressed in terms of free cyanide.
13 Region 4 value based on minimum standard for long-term irrigation of sensitive crops.
14 PCP toxicity is pH-dependent; value shown is calculated based on a pH of 7.8.

NAWQC = National Ambient Water Quality Criteria
GLQWI = Great Lakes Water Quality Initiative
SAV/SCV = Secondary Acute/Chronic Value
CCME = Canadian Council of Ministers of the Environment
WQG = Water Quality Guidelines
LCV = Lowest Chronic Value

**Table B-3**
**Bulk Sediment Toxicity Benchmarks for Benthic Macroinvertebrates**

| | Analyte | Threshold Effect Concentrations (TEC)[1] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Consensus-Based TEC (mg/kg) [a] | ARCS TEL (mg/kg) [b] | EqP Value (mg/kg) [d] | ESGs for PAHs (mg/kg) [e] | Other (mg/kg) | | Sediment Screening Benchmark (mg/kg) |
| Inorganics | Aluminum | -- | 25,519 | -- | -- | -- | | 25,519 |
| | Antimony | -- | -- | -- | -- | 2.0 | NOAA ERL [c] | 2.0 |
| | Arsenic | 9.8 | 11 | -- | -- | -- | | 9.8 |
| | Barium | -- | -- | -- | -- | -- | | no benchmark |
| | Beryllium | -- | -- | -- | -- | -- | | no benchmark |
| | Cadmium | 0.99 | 0.58 | -- | -- | -- | | 1.0 |
| | Calcium | -- | -- | -- | -- | -- | | no benchmark |
| | Chromium | 43 | 36 | -- | -- | -- | | 43 |
| | Cobalt | -- | -- | -- | -- | -- | | no benchmark |
| | Copper | 32 | 28 | -- | -- | -- | | 32 |
| | Cyanide | -- | -- | -- | -- | -- | | no benchmark |
| | Iron | -- | 188,400 | -- | -- | -- | | 188,400 |
| | Lead | 36 | 37 | -- | -- | -- | | 36 |
| | Magnesium | -- | -- | -- | -- | -- | | no benchmark |
| | Manganese | -- | 631 | -- | -- | -- | | 631 |
| | Mercury | 0.18 | -- | -- | -- | -- | | 0.18 |
| | Nickel | 23 | 20 | -- | -- | -- | | 23 |
| | Potassium | -- | -- | -- | -- | -- | | no benchmark |
| | Phosphorus | -- | -- | -- | -- | -- | | no benchmark |
| | Selenium | -- | -- | -- | -- | -- | | no benchmark |
| | Silver | -- | -- | -- | -- | 1.0 | NOAA ERL [c] | 1.0 |
| | Sodium | -- | -- | -- | -- | -- | | no benchmark |
| | Sulfide | -- | -- | -- | -- | -- | | no benchmark |
| | Thallium | -- | -- | -- | -- | -- | | no benchmark |
| | Vanadium | -- | -- | -- | -- | -- | | no benchmark |
| | Zinc | 121 | 98 | -- | -- | -- | | 121 |
| Pesticides | 4,4'-DDD | 0.0049 | -- | -- | -- | -- | | 0.0049 |
| | 4,4'-DDE | 0.0032 | -- | -- | -- | -- | | 0.0032 |
| | 4,4'-DDT | 0.0042 | -- | -- | -- | -- | | 0.0042 |
| | Aldrin | -- | -- | 0.15 | -- | -- | | 0.15 |
| | alpha-BHC | -- | -- | 10 | -- | -- | | 10 |
| | alpha-Chlordane | -- | -- | -- | -- | -- | | no benchmark |
| | Atrazine | -- | -- | -- | -- | -- | | no benchmark |
| | beta-BHC | -- | -- | 213 | -- | -- | | 213 |
| | Caprolactam | -- | -- | -- | -- | -- | | no benchmark |
| | Chlordane | 0.0032 | -- | -- | -- | -- | | 0.0032 |
| | delta-BHC | -- | -- | -- | -- | -- | | no benchmark |
| | Dieldrin | 0.0019 | -- | -- | -- | -- | | 0.0019 |
| | Endosulfan I | -- | -- | 0.0035 | -- | -- | | 0.0035 |
| | Endosulfan II | -- | -- | 0.0038 | -- | -- | | 0.0038 |
| | Endosulfan Sulfate | -- | -- | -- | -- | -- | | no benchmark |
| | Endrin | 0.0022 | -- | -- | -- | -- | | 0.0022 |
| | Endrin Aldehyde | -- | -- | -- | -- | -- | | no benchmark |
| | Endrin ketone | -- | -- | -- | -- | -- | | no benchmark |
| | gamma-BHC (Lindane) | 0.0024 | -- | -- | -- | -- | | 0.0024 |
| | gamma-Chlordane | -- | -- | -- | -- | -- | | no benchmark |
| | Heptachlor | -- | -- | 0.00013 | -- | -- | | 0.00013 |
| | Heptachlor Epoxide | 0.0025 | -- | -- | -- | -- | | 0.00247 |
| | Isodrin | -- | -- | -- | -- | -- | | no benchmark |
| | Kepone | -- | -- | -- | -- | -- | | no benchmark |

**Table B-3**
**Bulk Sediment Toxicity Benchmarks for Benthic Macroinvertebrates**

| Analyte | | Threshold Effect Concentrations (TEC)[1] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Consensus-Based TEC (mg/kg) [a] | ARCS TEL (mg/kg) [b] | EqP Value (mg/kg) [d] | ESGs for PAHs (mg/kg) [e] | Other (mg/kg) | | Sediment Screening Benchmark (mg/kg) |
| | Methoxychlor | -- | -- | 0.024 | -- | -- | | 0.024 |
| | Toxaphene | -- | -- | 0.00042 | -- | -- | | 0.00042 |
| Polyaromatic Hydrocarbons (PAHs) | 1-Methylnaphthalene | -- | -- | -- | 4.46 | -- | | 4.46 |
| | 2-Chloronaphthalene | -- | -- | -- | -- | -- | | no benchmark |
| | 2-Methylnaphthalene | -- | -- | -- | 4.47 | -- | | 4.47 |
| | Acenaphthene | -- | -- | -- | 4.52 | -- | | 4.52 |
| | Acenaphthylene | -- | -- | -- | 4.91 | -- | | 4.91 |
| | Aniline | -- | -- | 0.0012 | -- | -- | | 0.0012 |
| | Anthracene | 0.0572 | 0.0316 | -- | 5.94 | -- | | 0.0572 |
| | Benzo[a]anthracene | 0.108 | 0.26 | -- | 8.41 | -- | | 0.108 |
| | Benzo[a]pyrene | 0.15 | 0.35 | -- | 9.65 | -- | | 0.15 |
| | Benzo[b]fluoranthene | -- | 0.0272 | -- | 9.79 | -- | | 9.79 |
| | Benzo[g,h,i]perylene | -- | 0.29 | -- | 6.48 | -- | | 6.48 |
| | Benzo[k]fluoranthene | -- | 0.0272 | -- | 9.81 | -- | | 9.81 |
| | Chrysene | 0.166 | 0.5 | -- | 8.26 | -- | | 0.166 |
| | Dibenz[a,h]anthracene | 0.033 | -- | -- | 11.23 | -- | | 0.033 |
| | Dibenzofuran | -- | -- | 0.30 | -- | -- | | 0.30 |
| | Fluoranthene | 0.423 | 0.064 | -- | 7.07 | -- | | 0.423 |
| | Fluorene | 0.077 | 0.035 | -- | 5.38 | -- | | 0.077 |
| | Indeno[1,2,3-c,d]pyrene | -- | 0.078 | -- | 11.15 | -- | | 11.15 |
| | Naphthalene | 0.176 | 0.033 | -- | 3.85 | -- | | 0.176 |
| | Phenanthrene | 0.204 | -- | -- | 5.96 | -- | | 0.204 |
| | Pyrene | 0.20 | 0.57 | -- | 6.97 | -- | | 0.195 |
| Polychlorinated Biphenyls (PCBs) | Aroclor-1016 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1221 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1232 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1242 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1248 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1254 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1260 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| | Aroclor-1268 | 0.0598 | -- | -- | -- | -- | | 0.0598 |
| Petroleum Hydro-carbons | Total Petroleum Hydrocarbons (TPH) | -- | -- | -- | -- | -- | | no benchmark |
| | 1,1'-Biphenyl | -- | -- | 0.20 | -- | -- | | 0.20 |
| | 1,2,4-Trichlorobenzene | -- | -- | 1.6 | -- | -- | | 1.6 |
| | 1,2-Dichlorobenzene | -- | -- | 0.039 | -- | -- | | 0.039 |
| | 1,3-Dichlorobenzene | -- | -- | 0.21 | -- | -- | | 0.21 |
| | 1,4-Dichlorobenzene | -- | -- | 0.090 | -- | -- | | 0.090 |
| | 2,2'-oxybis(1-Chloropropane) | -- | -- | -- | -- | -- | | no benchmark |
| | 2,4,5-Trichlorophenol | -- | -- | -- | -- | -- | | no benchmark |
| | 2,4,6-Trichlorophenol | -- | -- | -- | -- | -- | | no benchmark |
| | 2,4-Dichlorophenol | -- | -- | -- | -- | -- | | no benchmark |
| | 2,4-Dimethylphenol | -- | -- | 0.0038 | -- | -- | | 0.0038 |
| | 2,4-Dinitrophenol | -- | -- | -- | -- | -- | | no benchmark |
| | 2,4-Dinitrotoluene | -- | -- | 0.28 | -- | -- | | 0.28 |
| | 2,6-Dinitrotoluene | -- | -- | -- | -- | -- | | no benchmark |
| | 2-Chlorophenol | -- | -- | 0.022 | -- | -- | | 0.022 |
| | 2-Methylphenol (o-Cresol) | -- | -- | 0.013 | -- | -- | | 0.013 |
| | 2-Nitroaniline | -- | -- | -- | -- | -- | | no benchmark |

**Table B-3**
**Bulk Sediment Toxicity Benchmarks for Benthic Macroinvertebrates**

| | Analyte | Threshold Effect Concentrations (TEC)[1] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Consensus-Based TEC (mg/kg) [a] | ARCS TEL (mg/kg) [b] | EqP Value (mg/kg) [d] | ESGs for PAHs (mg/kg) [e] | Other (mg/kg) | | Sediment Screening Benchmark (mg/kg) |
| Semi-Volatile Organic Compounds (SVOCs) | 2-Nitrophenol | -- | -- | -- | -- | -- | | no benchmark |
| | 3,3'-Dichlorobenzidine | -- | -- | -- | -- | -- | | no benchmark |
| | 3-Nitroaniline | -- | -- | -- | -- | -- | | no benchmark |
| | 4,6-Dinitro-o-cresol | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Bromophenyl-phenylether | -- | -- | 0.26 | -- | -- | | 0.26 |
| | 4-Chloro-3-Methylphenol | -- | -- | 0.0022 | -- | -- | | 0.0022 |
| | 4-Chloroaniline | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Chlorophenyl-phenylether | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Methylphenol (p-Cresol) | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Nitroaniline | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Nitrophenol | -- | -- | -- | -- | -- | | no benchmark |
| | Acetophenone | -- | -- | -- | -- | -- | | no benchmark |
| | Benzaldehyde | -- | -- | -- | -- | -- | | no benchmark |
| | Benzyl alcohol | -- | -- | 0.00043 | -- | -- | | 0.00043 |
| | Biphenyl | -- | -- | 0.20 | -- | -- | | 0.20 |
| | bis(2-Chloroethoxy)methane | -- | -- | -- | -- | -- | | no benchmark |
| | bis-(2-Chloroethyl)ether | -- | -- | 1.9 | -- | -- | | 1.9 |
| | bis(2-Chloroisopropyl)ether | -- | -- | -- | -- | -- | | no benchmark |
| | bis(2-Ethylhexyl)phthalate | -- | -- | 0.17 | -- | -- | | 0.17 |
| | bis(n-octyl)phthalate | -- | -- | 2.4 | -- | -- | | 2.4 |
| | Butylbenzylphthalate | -- | -- | 3.2 | -- | -- | | 3.2 |
| | Carbazole | -- | -- | -- | -- | -- | | no benchmark |
| | Dibutylphthalate | -- | -- | 2.2 | -- | -- | | 2.2 |
| | Diethylphthalate | -- | -- | 0.21 | -- | -- | | 0.21 |
| | Dimethylphthalate | -- | -- | 0.13 | -- | -- | | 0.13 |
| | Hexachlorobenzene | -- | -- | -- | -- | -- | | no benchmark |
| | Hexachlorobutadiene | -- | -- | 0.021 | -- | -- | | 0.021 |
| | Hexachlorocyclopentadiene | -- | -- | 0.0014 | -- | -- | | 0.0014 |
| | Hexachloroethane | -- | -- | 0.26 | -- | -- | | 0.26 |
| | Isophorone | -- | -- | 0.29 | -- | -- | | 0.29 |
| | Nitrobenzene | -- | -- | 0.62 | -- | -- | | 0.62 |
| | N-Nitrosodiphenylamine | -- | -- | 2.5 | -- | -- | | 2.5 |
| | n-Nitrosodipropylamine | -- | -- | -- | -- | -- | | no benchmark |
| | Pentachlorophenol (PCP) | -- | -- | -- | -- | -- | | no benchmark |
| | Phenol | -- | -- | 0.077 | -- | -- | | 0.077 |
| | 1,1,1,2-Tetrachloroethane | -- | -- | -- | -- | -- | | no benchmark |
| | 1,1,1-Trichloroethane | -- | -- | 0.020 | -- | -- | | 0.020 |
| | 1,1,2,2-Tetrachloroethane | -- | -- | 0.48 | -- | -- | | 0.48 |
| | 1,1,2-Trichloroethane | -- | -- | 0.95 | -- | -- | | 0.95 |
| | 1,1-Dichloroethane | -- | -- | 0.019 | -- | -- | | 0.019 |
| | 1,1-Dichloroethene | -- | -- | 0.086 | -- | -- | | 0.086 |
| | 1,1-Dichloropropene | -- | -- | -- | -- | -- | | no benchmark |
| | 1,2,3-Trichlorobenzene | -- | -- | 0.32 | -- | -- | | 0.32 |
| | 1,2,3-Trichloropropane | -- | -- | -- | -- | -- | | no benchmark |
| | 1,2,4-Trimethylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | 1,2-Dibromo-3-chloropropane (DBCP) | -- | -- | -- | -- | -- | | no benchmark |
| | 1,2-Dichloroethane | -- | -- | 0.29 | -- | -- | | 0.29 |
| | 1,2-Dichloroethene | -- | -- | 0.21 | -- | -- | | 0.21 |
| | 1,2-Dichloropropane | -- | -- | 0.14 | -- | -- | | 0.14 |
| | 1,3,5-Trimethylbenzene | -- | -- | -- | -- | -- | | no benchmark |

**Table B-3**
**Bulk Sediment Toxicity Benchmarks for Benthic Macroinvertebrates**

| | Analyte | Threshold Effect Concentrations (TEC)[1] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Consensus-Based TEC (mg/kg) [a] | ARCS TEL (mg/kg) [b] | EqP Value (mg/kg) [d] | ESGs for PAHs (mg/kg) [e] | Other (mg/kg) | | Sediment Screening Benchmark (mg/kg) |
| Volatile Organic Compounds (VOCs) | 1,3-Dichloropropane | -- | -- | -- | -- | -- | | no benchmark |
| | 1,4-Dioxane | -- | -- | -- | -- | -- | | no benchmark |
| | 2,2-Dichloropropane | -- | -- | -- | -- | -- | | no benchmark |
| | 2-Chloro-1,3-butadiene (Chloroprene) | -- | -- | -- | -- | -- | | no benchmark |
| | 2-Chloroethyl vinyl ether | -- | -- | 0.29 | -- | -- | | 0.29 |
| | 2-Chlorotoluene | -- | -- | -- | -- | -- | | no benchmark |
| | 2-Hexanone | -- | -- | 0.013 | -- | -- | | 0.013 |
| | 3-Chloropropene (Allyl Chloride) | -- | -- | -- | -- | -- | | no benchmark |
| | 4-Chlorotoluene | -- | -- | -- | -- | -- | | no benchmark |
| | Acetone | -- | -- | 0.27 | -- | -- | | 0.27 |
| | Acetonitrile | -- | -- | -- | -- | -- | | no benchmark |
| | Acrolein | -- | -- | 0.00011 | -- | -- | | 0.00011 |
| | Acrylonitrile | -- | -- | 0.0068 | -- | -- | | 0.0068 |
| | Benzene | -- | -- | 0.064 | -- | -- | | 0.064 |
| | Bromobenzene | -- | -- | -- | -- | -- | | no benchmark |
| | Bromodichloromethane | -- | -- | -- | -- | -- | | no benchmark |
| | Bromoform | -- | -- | 0.90 | -- | -- | | 0.90 |
| | Bromomethane (Methyl bromide) | -- | -- | 0.011 | -- | -- | | 0.011 |
| | Carbon Disulfide | -- | -- | 0.00082 | -- | -- | | 0.00082 |
| | Carbon Tetrachloride | -- | -- | 0.022 | -- | -- | | 0.022 |
| | Chlorobenzene | -- | -- | 0.13 | -- | -- | | 0.13 |
| | Chlorodibromomethane | -- | -- | -- | -- | -- | | no benchmark |
| | Chloroethane (Ethyl chloride) | -- | -- | -- | -- | -- | | no benchmark |
| | Chloroform | -- | -- | 0.011 | -- | -- | | 0.011 |
| | Chloromethane (Methyl chloride) | -- | -- | 4.1 | -- | -- | | 4.1 |
| | cis-1,2-Dichloroethene | -- | -- | -- | -- | -- | | no benchmark |
| | cis-1,3-Dichloropropene | -- | -- | -- | -- | -- | | no benchmark |
| | Dibromomethane | -- | -- | -- | -- | -- | | no benchmark |
| | Dichlorodifluoromethane | -- | -- | -- | -- | -- | | no benchmark |
| | Dichloromethane | -- | -- | 0.62 | -- | -- | | 0.62 |
| | Ethyl Methacrylate | -- | -- | -- | -- | -- | | no benchmark |
| | Ethylbenzene | -- | -- | 0.018 | -- | -- | | 0.018 |
| | Ethylene dibromide (EDB) | -- | -- | -- | -- | -- | | no benchmark |
| | Hexane | -- | -- | 0.00086 | -- | -- | | 0.00086 |
| | Iodomethane | -- | -- | -- | -- | -- | | no benchmark |
| | Isobutyl Alcohol | -- | -- | -- | -- | -- | | no benchmark |
| | Isopropylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | Methacrylonitrile | -- | -- | -- | -- | -- | | no benchmark |
| | Methyl ethyl ketone (MEK) | -- | -- | 0.73 | -- | -- | | 0.73 |
| | Methyl isobutyl ketone (MIBK) | -- | -- | 0.032 | -- | -- | | 0.032 |
| | Methyl Metharcylate | -- | -- | -- | -- | -- | | no benchmark |
| | Methyl-t-butyl ether (MTBE) | -- | -- | -- | -- | -- | | no benchmark |
| | n-Butylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | n-Propylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | sec-Butylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | Styrene | -- | -- | 0.66 | -- | -- | | 0.66 |
| | tert-Butylbenzene | -- | -- | -- | -- | -- | | no benchmark |
| | Tetrachloroethene | -- | -- | 0.36 | -- | -- | | 0.36 |
| | Toluene | -- | -- | 0.0093 | -- | -- | | 0.0093 |
| | trans-1,2-Dichloroethene | -- | -- | -- | -- | -- | | no benchmark |

**Table B-3**
**Bulk Sediment Toxicity Benchmarks for Benthic Macroinvertebrates**

| Analyte | | Threshold Effect Concentrations (TEC)[1] | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Consensus-Based TEC (mg/kg) [a] | ARCS TEL (mg/kg) [b] | EqP Value (mg/kg) [d] | ESGs for PAHs (mg/kg) [e] | Other (mg/kg) | | Sediment Screening Benchmark (mg/kg) |
| | trans-1,3-Dichloropropene | -- | -- | -- | -- | -- | | no benchmark |
| | trans-1,4-Dichloro-2-Butene | -- | -- | -- | -- | -- | | no benchmark |
| | Trichloroethene | -- | -- | 0.049 | -- | -- | | 0.049 |
| | Trichlorofluoromethane | -- | -- | -- | -- | -- | | no benchmark |
| | Vinyl Acetate | -- | -- | 0.0030 | -- | -- | | 0.0030 |
| | Vinyl Chloride | -- | -- | -- | -- | -- | | no benchmark |
| | Xylenes (Total) | -- | -- | 0.017 | -- | -- | | 0.017 |

Notes:
1 The TEC encompasses several types of sediment quality guidelines including the Lowest Effect Level (LEL), the Threshold Effect Level (TEL), the

Sources Hierarchy:
a MacDonald et al. (2000); consensus-based threshold effect concentration (TEC) and probable effect concentration (PEC).
b Ingersoll, et al. (1996); Threshold Effect Level (TEL) and Probable Effect Level (PEL) for total extraction of sediment (BT) samples from *Hyalella azteca* 28-day (HA28) tests.
c Long and Morgan (1990); NOAA Effect Range Low (ERL) and Effect Range Median (ERM).
d Derived based on the equilibrium partitioning (EqP) approach as described in Region 5 ESL Guidance (USEPA, 1999) normalized to 1% TOC.
e USEPA (2000); Equilibrium-partitioning sediment guidelines (ESGs) $C_{OC,PAHi,FCVi}$ normalized to 1% TOC.

**TABLE B-4**
EPA Region III RBCs 4/6/2007

Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic)
E = EPA-NCEA provisional value O = other P = EPA provisional peer-rev m = Default ADAFs applied, carcinogenic via mutagenic mode of action

Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs

| | | | | | | | | Risk-based concentrations | | | | | Region III SSLs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tap | Ambient | | Soil | | Soil, for groundwater migration | |
| | | RfDo | CSFo | RfDi | CSFi | | | water | air | Fish | Industrial | Residential | DAF 1 | DAF 20 |
| Chemical | | CAS | mg/kg/d | 1/mg/kg/d | mg/kg/d | 1/mg/kg/d | VOC | ug/l | ug/m3 | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| ACETALDEHYDE | | 75070 | | | 2.57E-03 I | 7.7E-03 I | y | 1.6E+00 C | 8.1E-01 C | | | | 3.8E-04 | 7.7E-03 C |
| ACETOCHLOR | | 34256821 | 2E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | | |
| ACETONE | | 67641 | 9.00E-01 I | | | | y | 5.5E+03 N | 3.3E+03 N | 1.2E+03 N | 9.2E+05 N | 7.0E+04 N | 1.1E+00 | 2.2E+01 N |
| ACETONITRILE | | 75058 | | | 1.7E-02 I | | y | 1.2E+02 N | 6.2E+01 N | | | | 2.9E-02 | 5.8E-01 N |
| ACETOPHENONE | | 98862 | 1.00E-01 I | | | | y | 6.1E+02 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 1.6E-01 | 3.2E+00 N |
| ACROLEIN | | 107028 | 5.00E-04 I | | 5.70E-06 I | | y | 4.2E-02 N | 2.1E-02 N | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | 1.0E-05 | 2.0E-04 N |
| ACRYLAMIDE | | 79061 | 2.00E-04 I | 4.50E+00 I | | 4.50E+00 I | | 1.5E-02 C | 1.4E-03 C | 7.0E-04 C | 6.4E-01 C | 1.4E-01 C | 3.7E-06 | 7.4E-05 C |
| ACRYLONITRILE | | 107131 | 1.00E-03 H | 5.40E-01 I | 5.70E-04 I | 2.40E-01 I | y | 3.7E-02 C | 2.6E-02 C | 5.8E-03 C | 5.3E+00 C | 1.2E+00 C | 7.4E-06 | 1.5E-04 C |
| ALACHLOR | | 15972608 | 1.00E-02 I | 8.00E-02 H | | | | 8.4E-01 C | 7.8E-02 C | 3.9E-02 C | 3.6E+01 C | 8.0E+00 C | 3.5E-04 | 7.0E-03 C |
| ALAR | | 1596845 | 1.50E-01 I | | | | | 5.5E+03 N | 5.5E+02 N | 2.0E+02 N | 1.5E+05 N | 1.2E+04 N | | |
| ALDICARB | | 116063 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 1.0E-02 | 2.1E-01 N |
| ALDICARB SULFONE | | 1646884 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 7.5E-03 | 1.5E-01 N |
| ALDRIN | | 309002 | 3.00E-05 I | 1.70E+01 I | | 1.70E+01 I | | 3.9E-03 C | 3.7E-04 C | 1.9E-04 C | 1.7E-01 C | 3.8E-02 C | 3.8E-04 | 7.7E-03 C |
| **ALUMINUM | | 7429905 | 1.00E+00 P | | 1.00E-03 P | | | 3.7E+04 N | 3.7E+00 N | 1.4E+03 N | 1.0E+06 N | 7.8E+04 N | | |
| AMINODINITROTOLUENES | | | 2.00E-03 E | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| AMMONIA | | 7664417 | | | 2.86E-02 I | | y | 2.1E+02 N | 1.0E+02 N | | | | | |
| ANILINE | | 62533 | 7.00E-03 P | 5.70E-03 I | 2.90E-04 I | | | 1.2E+01 C | 1.1E+00 N | 5.5E-01 C | 5.0E+02 C | 1.1E+02 C ! | 6.8E-03 | 1.4E-01 C |
| ANTIMONY | | 7440360 | 4.00E-04 I | | | | | 1.5E+01 N | 1.5E+00 N | 5.4E-01 N | 4.1E+02 N | 3.1E+01 N | 6.6E-01 | 1.3E+01 N |
| ANTIMONY TRIOXIDE | | 1309644 | 4.00E-04 H | | 5.70E-05 I | | | 1.5E+01 N | 2.1E-01 N | 5.4E-01 N | 4.1E+02 N | 3.1E+01 N | | |
| ARSENIC | | 7440382 | 3.00E-04 I | 1.50E+00 I | | 1.51E+01 I | | 4.5E-02 C | 4.1E-04 C | 2.1E-03 C | 1.9E+00 C | 4.3E-01 C | 1.3E-03 | 2.6E-02 C |
| ARSINE | | 7784421 | | | 1.40E-05 I | | y | 1.0E-01 N | 5.1E-02 N | | | | | |
| ASSURE | | 76578148 | 9.00E-03 I | | | | | 3.3E+02 N | 3.3E+01 N | 1.2E+01 N | 9.2E+03 N | 7.0E+02 N | | |
| ATRAZINE | | 1912249 | 3.50E-02 I | 2.20E-01 H | | | | 3.0E-01 C | 2.8E-02 C | 1.4E-02 C | 1.3E+01 C | 2.9E+00 C | 4.4E-04 | 8.8E-03 C |
| BARIUM | | 7440393 | 2.00E-01 I | | 1.40E-04 A | | | 7.3E+03 N | 5.1E-01 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 3.0E+02 | 6.0E+03 N |
| BAYGON | | 114261 | 4.00E-03 I | | | | | 1.5E+02 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | | |
| BAYTHROID | | 68359375 | 2.50E-02 I | | | | | 9.1E+02 N | 9.1E+01 N | 3.4E+01 N | 2.6E+04 N | 2.0E+03 N | | |
| BENTAZON | | 25057890 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| BENZALDEHYDE | | 100527 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| BENZENE | | 71432 | 4.00E-03 I | 5.5E-02 I | 8.6E-03 I | 2.7E-02 I | y | 3.4E-01 C | 2.3E-01 C | 5.7E-02 C | 5.2E+01 C | 1.2E+01 C | 9.5E-05 | 1.9E-03 C |
| BENZENETHIOL | | 108985 | 1.00E-05 H | | | | y | 6.1E-02 N | 3.7E-02 N | 1.4E-02 N | 1.0E+01 N | 7.8E-01 N | | |
| BENZIDINE | m | 92875 | 3.00E-03 I | 2.30E+02 I | | 2.30E+02 I | | 1.0E-04 C | 1.0E-05 C | 1.4E-05 C | 1.2E-02 C | 7.0E-04 C | | |
| BENZOIC ACID | | 65850 | 4.00E+00 I | | | | | 1.5E+05 N | 1.5E+04 N | 5.4E+03 N | 4.1E+06 N | 3.1E+05 N | | |
| BENZYL ALCOHOL | | 100516 | 5.00E-01 P | | | | | 1.8E+04 N | 1.8E+03 N | 6.8E+02 N | 5.1E+05 N | 3.9E+04 N | 7.3E+00 | 1.5E+02 N |
| BENZYL CHLORIDE | | 100447 | | 0.17 I | | | y | 6.2E-02 C | 3.7E-02 C | 1.9E-02 C | 1.7E+01 C | 3.8E+00 C | 1.9E-05 | 3.7E-04 C |
| BERYLLIUM | | 7440417 | 2.00E-03 I | | 5.7E-06 I | 8.40E+00 I | | 7.3E+01 N | 7.5E-04 C | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | 5.8E+01 | 1.2E+03 N |
| BIPHENYL | | 92524 | 5.00E-02 I | | | | y | 3.0E+02 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | 4.8E+00 | 9.6E+01 N |
| BIS(2-CHLOROETHYL)ETHER | | 111444 | | 1.10E+00 I | | 1.10E+00 I | y | 9.6E-03 C | 5.7E-03 C | 2.9E-03 C | 2.6E+00 C | 5.8E-01 C | 2.2E-06 | 4.4E-05 C |
| BIS(2-CHLOROISOPROPYL)ETHER | | 108601 | 4.00E-02 I | 7.00E-02 H | | 3.50E-02 H | y | 2.6E-01 C | 1.8E-01 C | 4.5E-02 C | 4.1E+01 C | 9.1E+00 C | 8.4E-05 | 1.7E-03 C |
| BIS(CHLOROMETHYL)ETHER | | 542881 | | 2.20E+02 I | | 2.20E+02 I | y | 4.8E-05 C | 2.8E-05 C | 1.4E-05 C | 1.3E-02 C | 2.9E-03 C | 9.7E-09 | 1.9E-07 C |
| BIS(2-ETHYLHEXYL)PHTHALATE | | 117817 | 2.00E-02 I | 1.40E-02 I | | | | 4.8E+00 C | 4.5E-01 C | 2.3E-01 C | 2.0E+02 C | 4.6E+01 C | 1.4E+02 | 2.9E+03 C |
| BORON | | 7440428 | 2.00E-01 I | | 5.70E-03 H | | | 7.3E+03 N | 2.1E+01 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | | |
| BROMODICHLOROMETHANE | | 75274 | 2.00E-02 I | 6.20E-02 I | | | y | 1.7E-01 C | 1.0E-01 C | 5.1E-02 C | 4.6E+01 C | 1.0E+01 C | 5.4E-05 | 1.1E-03 C |
| BROMOETHENE | | 593602 | | | 8.6E-04 I | 1.10E-01 H | y | 1.1E-01 C | 5.7E-02 C | | | | 5.4E-05 | 1.1E-03 C |
| BROMOFORM | | 75252 | 2.00E-02 I | 7.90E-03 I | | 3.90E-03 I | | 8.5E+00 C | 1.6E+00 C | 4.0E-01 C | 3.6E+02 C | 8.1E+01 C | 3.3E-03 | 6.7E-02 C |
| BROMOMETHANE | | 74839 | 1.40E-03 I | | 1.40E-03 I | | y | 8.5E+00 N | 5.1E+00 N | 1.9E+00 N | 1.4E+03 N | 1.1E+02 N | 2.1E-03 | 4.1E-02 N |
| BROMOPHOS | | 2104963 | 5.00E-03 H | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| 1,3-BUTADIENE | | 106990 | | | 5.7E-04 I | 1.00E-01 I | y | 1.3E-01 C | 6.3E-02 C | | | | 7.0E-05 | 1.4E-03 C |
| 1-BUTANOL | | 71363 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 7.8E-01 | 1.6E+01 N |
| BUTYLBENZYLPHTHALATE | | 85687 | 2.00E-01 I | | | | | 7.3E+03 N | 7.3E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 8.4E+02 | 1.7E+04 N |
| CADMIUM-WATER | | 7440439 | 5.00E-04 I | | 5.7E-05 E | 6.30E+00 I | | 1.8E+01 N | 9.9E-04 C | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | 1.4E+00 | 2.7E+01 N |
| CADMIUM-FOOD | | 7440439 | 1.00E-03 I | | 5.7E-05 E | 6.30E+00 I | | 3.7E+01 N | 9.9E-04 C | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 2.7E+00 | 5.5E+01 N |
| CAPROLACTAM | | 105602 | 5.00E-01 I | | | | | 1.8E+04 N | 1.8E+03 N | 6.8E+02 N | 5.1E+05 N | 3.9E+04 N | | |
| CARBARYL | | 63252 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 1.5E+00 | 3.0E+01 N |
| CARBON DISULFIDE | | 75150 | 1.00E-01 I | | 2.00E-01 I | | y | 1.0E+03 N | 7.3E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 9.5E-01 | 1.9E+01 N |
| CARBON TETRACHLORIDE | | 56235 | 7.00E-04 I | 1.30E-01 I | 5.00E-02 M | 5.30E-02 I | y | 1.6E-01 C | 1.2E-01 C | 2.4E-02 C | 2.2E+01 C | 4.9E+00 C | 1.1E-04 | 2.1E-03 C |
| CARBOSULFAN | | 55285148 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| CHLORAL HYDRATE | | 302170 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| CHLORANIL | | 118752 | | 4.00E-01 H | | | | 1.7E-01 C | 1.6E-02 C | 7.9E-03 C | 7.2E+00 C | 1.6E+00 C | | |
| CHLORDANE | | 57749 | 5.00E-04 I | 3.5E-01 I | 2.00E-04 I | 3.5E-01 I | | 1.9E-01 C | 1.8E-02 C | 9.0E-03 C | 8.2E+00 C | 1.8E+00 C | 4.6E-02 | 9.2E-01 C |
| CHLORINE DIOXIDE | | 10049044 | 3.00E-02 I | | 5.70E-05 I | | y | 4.2E-01 N | 2.1E-01 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| CHLOROACETIC ACID | | 79118 | 2.00E-03 H | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| 4-CHLOROANILINE | | 106478 | 4.00E-03 I | | | | | 1.5E+02 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | 4.8E-02 | 9.7E-01 N |
| CHLOROBENZENE | | 108907 | 2.00E-02 I | | 1.4E-02 P | | y | 9.0E+01 N | 5.1E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 3.4E-02 | 6.8E-01 N |
| 2-CHLORO-1,3-BUTADIENE | | 126998 | 2.00E-02 A | | 2.00E-03 H | | y | 1.4E+01 N | 7.3E+00 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 6.0E-03 | 1.2E-01 N |
| 1-CHLORO-1,1-DIFLUOROETHANE | | 75683 | | | 1.40E+01 I | | y | 1.0E+05 N | 5.1E+04 N | | | | 7.0E+01 | 1.4E+03 N |
| CHLORODIFLUOROMETHANE | | 75456 | | | 1.40E+01 I | | y | 1.0E+05 N | 5.1E+04 N | | | | 7.0E+01 | 1.4E+03 N |
| CHLOROETHANE | | 75003 | 4.00E-01 E | 2.90E-03 E | 2.90E+00 I | | y | 3.6E+00 C | 2.2E+00 C | 1.1E+00 C | 9.9E+02 C | 2.2E+02 C | 9.6E-04 | 1.9E-02 C |
| CHLOROFORM | | 67663 | 1.00E-02 I | | 1.4E-02 E | 8.10E-02 I | y | 1.5E-01 C | 7.7E-02 C | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | 4.5E-05 | 9.1E-04 C |
| CHLOROMETHANE | | 74873 | | | 2.6E-02 I | | y | 1.9E+02 N | 9.5E+01 N | | | | 4.6E-02 | 9.3E-01 N |
| 4-CHLORO-2-METHYLANILINE | | 95692 | | 5.80E-01 H | | | | 1.2E-01 C | 1.1E-02 C | 5.4E-03 C | 4.9E+00 C | 1.1E+00 C | | |
| BETA-CHLORONAPHTHALENE | | 91587 | 8.00E-02 I | | | | y | 4.9E+02 N | 2.9E+02 N | 1.1E+02 N | 8.2E+04 N | 6.3E+03 N | 1.6E+00 | 3.2E+01 N |
| 2-CHLOROPHENOL | | 95578 | 5.00E-03 I | | | | y | 3.0E+01 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| 2-CHLOROPROPANE | | 75296 | | | 2.90E-02 H | | y | 2.1E+02 N | 1.1E+02 N | | | | 6.6E-02 | 1.3E+00 N |
| O-CHLOROTOLUENE | | 95498 | 2.00E-02 I | | | | y | 1.2E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 6.5E-02 | 1.3E+00 N |
| P-CHLOROTOLUENE | | 106434 | 7.00E-02 P | | | | y | 4.3E+02 N | 2.6E+02 N | 9.5E+01 N | 7.2E+04 N | 5.5E+03 N | | |
| CHLORPYRIFOS | | 2921882 | 3.00E-03 I | | | | | 1.1E+02 N | 1.1E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | 3.2E+00 | 6.3E+01 N |
| CHLORPYRIFOS-METHYL | | 5598130 | 1.00E-02 H | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| CHROMIUM III | | 16065831 | 1.50E+00 I | | | | | 5.5E+04 N | 5.5E+03 N | 2.0E+03 N | 1.5E+06 N | 1.2E+05 N | 9.9E+07 | 2.0E+09 N |

**TABLE B-4**
EPA Region III RBCs 4/6/2007

Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic)
E = EPA-NCEA provisional value O = other P = EPA provisional peer-rev m = Default ADAFs applied, carcinogenic via mutagenic mode of action

Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs

| | | | | | | | | Risk-based concentrations | | | | | Region III SSLs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Tap | Ambient | | Soil | | Soil, for groundwater migration | |
| | | RfDo | CSFo | RfDi | CSFi | | | water | air | Fish | Industrial | Residential | DAF 1 | DAF 20 |
| Chemical | | CAS | mg/kg/d | 1/mg/kg/d | mg/kg/d | 1/mg/kg/d | VOC | ug/l | ug/m3 | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| CHROMIUM VI | | 18540299 | 3.00E-03 I | | 3.00E-05 I | 4.10E+01 I | | 1.1E+02 N | 1.5E-04 C | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | 2.1E+00 | 4.2E+01 N |
| COKE OVEN EMISSIONS (COAL TAR) | m | 8007452 | | | | 2.2 I | | | 1.0E-03 C | | | | | |
| COPPER | | 7440508 | 4.00E-02 H | | | | | 1.5E+03 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | 5.3E+02 | 1.1E+04 N |
| CUMENE | | 98828 | 1.00E-01 I | | 1.10E-01 I | | y | 6.6E+02 N | 4.0E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 3.2E+00 | 6.4E+01 N |
| CYANIDE (FREE) | | 57125 | 2.00E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 7.4E+00 | 1.5E+02 N |
| CALCIUM CYANIDE | | 592018 | 4E-02 I | | | | | 1.5E+03 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | | |
| COPPER CYANIDE | | 544923 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| CYANOGEN | | 460195 | 4.00E-02 I | | | | y | 2.4E+02 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | | |
| HYDROGEN CYANIDE | | 74908 | 2.00E-02 I | | 8.60E-04 I | | y | 6.2E+00 N | 3.1E+00 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 1.1E-01 | 2.2E+00 N |
| POTASSIUM CYANIDE | | 151508 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |
| POTASSIUM SILVER CYANIDE | | 506616 | 2.00E-01 I | | | | | 7.3E+03 N | 7.3E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | | |
| SILVER CYANIDE | | 506649 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 3.1E+01 | 6.2E+02 N |
| SODIUM CYANIDE | | 143339 | 4.00E-02 I | | | | | 1.5E+03 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | | |
| THIOCYANATES | | | 2.00E-04 P | | | | | 7.3E+00 N | 7.3E-01 N | 2.7E-01 N | 2.0E+02 N | 1.6E+01 N | | |
| ZINC CYANIDE | | 557211 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | 1.1E+02 | 2.3E+03 N |
| CYCLOHEXANE | | 110827 | | | 1.70E+00 I | | y | 1.2E+04 N | 6.2E+03 N | | | | | |
| CYCLOHEXANONE | | 108941 | 5.00E+00 I | | | | | 1.8E+05 N | 1.8E+04 N | 6.8E+03 N | 5.1E+06 N | 3.9E+05 N | 6.1E+01 | 1.2E+03 N |
| CYHALOTHRIN/KARATE | | 68085858 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| CYPERMETHRIN | | 52315078 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| DACTHAL | | 1861321 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| DALAPON | | 75990 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | 3.5E-01 | 7.1E+00 N |
| DDD | | 72548 | | 2.40E-01 I | | | | 2.8E-01 C | 2.6E-02 C | 1.3E-02 C | 1.2E+01 C | 2.7E+00 C | 5.6E-01 | 1.1E+01 C |
| DDE | | 72559 | | 3.40E-01 I | | | | 2.0E-01 C | 1.8E-02 C | 9.3E-03 C | 8.4E+00 C | 1.9E+00 C | 1.8E+00 | 3.5E+01 C |
| DDT | | 50293 | 5.00E-04 I | 3.40E-01 I | | 3.40E-01 I | | 2.0E-01 C | 1.8E-02 C | 9.3E-03 C | 8.4E+00 C | 1.9E+00 C | 5.8E-02 | 1.2E+00 C |
| DIAZINON | | 333415 | 9.00E-04 H | | | | | 3.3E+01 N | 3.3E+00 N | 1.2E+00 N | 9.2E+02 N | 7.0E+01 N | 2.1E-02 | 4.3E-01 N |
| **DIBENZOFURAN | | 132649 | 1.00E-03 P | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | | |
| 1,4-DIBROMOBENZENE | | 106376 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| DIBROMOCHLOROMETHANE | | 124481 | 2.00E-02 I | 8.40E-02 I | | | y | 1.3E-01 C | 7.5E-02 C | 3.8E-02 C | 3.4E+01 C | 7.6E+00 C | 4.1E-05 | 8.3E-04 C |
| 1,2-DIBROMO-3-CHLOROPROPANE | m | 96128 | 2.00E-04 P | 8.00E-01 P | 5.70E-05 I | 2.10E+01 P | y | 2.0E-04 C | 1.0E-04 C | 3.9E-03 C | 3.6E+00 C | 2.0E-01 C | 1.8E-07 | 3.7E-06 C |
| 1,2-DIBROMOETHANE | | 106934 | 9.00E-03 I | 2.00E+00 I | 2.6E-03 I | 2.00E+00 I | y | 5.3E-03 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | 3.0E-06 | 6.0E-05 C |
| DIBUTYLPHTHALATE | | 84742 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 2.5E+02 | 5.0E+03 N |
| DICAMBA | | 1918009 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | 2.2E-01 | 4.5E+00 N |
| 1,2-DICHLOROBENZENE | | 95501 | 9.00E-02 I | | 4.00E-02 H | | y | 2.7E+02 N | 1.5E+02 N | 1.2E+02 N | 9.2E+04 N | 7.0E+03 N | 2.3E-01 | 4.6E+00 N |
| 1,3-DICHLOROBENZENE | | 541731 | 3.00E-03 E | | | | y | 1.8E+01 N | 1.1E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | 1.5E-02 | 2.9E-01 N |
| 1,4-DICHLOROBENZENE | | 106467 | 3.00E-02 E | 2.40E-02 H | 2.29E-01 I | 2.2E-02 E | y | 4.7E-01 C | 2.8E-01 C | 1.3E-01 C | 1.2E+02 C | 2.7E+01 C | 3.6E-04 | 7.1E-03 C |
| 3,3'-DICHLOROBENZIDINE | | 91941 | | 4.50E-01 I | | | | 1.5E-01 C | 1.4E-02 C | 7.0E-03 C | 6.4E+00 C | 1.4E+00 C | 2.5E-04 | 4.9E-03 C |
| DICHLORODIFLUOROMETHANE | | 75718 | 2.00E-01 I | | 5.00E-02 A | | y | 3.5E+02 N | 1.8E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 5.5E-01 | 1.1E+01 N |
| 1,1-DICHLOROETHANE | | 75343 | 2.00E-01 P | | 1.40E-01 A | | y | 9.0E+02 N | 5.1E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 2.6E-01 | 5.1E+00 N |
| 1,2-DICHLOROETHANE | | 107062 | | 9.10E-02 I | 7.00E-01 M | 9.10E-02 I | y | 1.2E-01 C | 6.9E-02 C | 3.5E-02 C | 3.1E+01 C | 7.0E+00 C | 5.2E-05 | 1.0E-03 C |
| 1,1-DICHLOROETHENE | | 75354 | 5.00E-02 I | | 6.00E-02 I | | y | 3.5E+02 N | 2.2E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | 1.5E-01 | 2.9E+00 N |
| CIS-1,2-DICHLOROETHENE | | 156592 | 1.00E-02 P | | | | y | 6.1E+01 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| **TRANS-1,2-DICHLOROETHENE | | 156605 | 2.00E-02 I | | 1.7E-02 P | | y | 1.1E+02 N | 6.2E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 3.6E-02 | 7.2E-01 N |
| TOTAL 1,2-DICHLOROETHENE | | 540590 | 9.00E-03 H | | | | y | 5.5E+01 N | 3.3E+01 N | 1.2E+01 N | 9.2E+03 N | 7.0E+02 N | 1.9E-02 | 3.7E-01 N |
| 2,4-DICHLOROPHENOL | | 120832 | 3.00E-03 I | | | | | 1.1E+02 N | 1.1E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | 6.0E-02 | 1.2E+00 N |
| 2,4-D | | 94757 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | 4.5E-01 | 9.0E+00 N |
| 4-(2,4-DICHLOROPHENOXY)BUTYRIC ACID | | 94826 | 8E-03 I | | | | | 2.9E+02 N | 2.9E+01 N | 1.1E+01 N | 8.2E+03 N | 6.3E+02 N | | |
| 1,2-DICHLOROPROPANE | | 78875 | | 6.80E-02 H | 1.14E-03 I | | y | 1.6E-01 C | 9.2E-02 C | 4.6E-02 C | 4.2E+01 C | 9.4E+00 C | 1.0E-04 | 2.1E-03 C |
| 1,3-DICHLOROPROPANE | | 142289 | 2.00E-02 P | | | | y | 1.2E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | | |
| 2,3-DICHLOROPROPANOL | | 616239 | 3.00E-03 I | | | | | 1.1E+02 N | 1.1E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | | |
| 1,3-DICHLOROPROPENE | | 542756 | 3.00E-02 I | 1.00E-01 I | 5.71E-03 I | 1.00E-02 I | y | 4.4E-01 C | 6.3E-01 C | 3.2E-02 C | 2.9E+01 C | 6.4E+00 C | 1.6E-04 | 3.1E-03 C |
| DICHLORVOS | | 62737 | 5E-04 I | 0.29 I | 1.43E-04 I | | | 2.3E-01 C | 2.2E-02 C | 1.1E-02 C | 9.9E+00 C | 2.2E+00 C | 5.5E-05 | 1.1E-03 C |
| DIELDRIN | | 60571 | 5.00E-05 I | 1.60E+01 I | | 1.60E+01 I | | 4.2E-03 C | 3.9E-04 C | 2.0E-04 C | 1.8E-01 C | 4.0E-02 C | 1.1E-04 | 2.2E-03 C |
| DIESEL EMISSIONS | | | | | 1.40E-03 I | | | | 5.1E+00 N | | | | | |
| DIETHYLPHTHALATE | | 84662 | 8.00E-01 I | | | | | 2.9E+04 N | 2.9E+03 N | 1.1E+03 N | 8.2E+05 N | 6.3E+04 N | 2.3E+01 | 4.5E+02 N |
| DI(2-ETHYLHEXYL)ADIPATE | | 103231 | 6.00E-01 I | 1.20E-03 I | | | | 5.6E+01 C | 5.2E+00 C | 2.6E+00 C | 2.4E+03 C | 5.3E+02 C | | |
| DIETHYLSTILBESTROL | | 56531 | | 4.70E+03 H | | | | 1.4E-05 C | 1.3E-06 C | 6.7E-07 C | 6.1E-04 C | 1.4E-04 C | | |
| DIFENZOQUAT (AVENGE) | | 43222486 | 8.00E-02 I | | | | | 2.9E+03 N | 2.9E+02 N | 1.1E+02 N | 8.2E+04 N | 6.3E+03 N | | |
| 1,1-DIFLUOROETHANE | | 75376 | | | 1.10E+01 I | | y | 8.0E+04 N | 4.0E+04 N | | | | | |
| DIISOPROPYL METHYLPHOSPHONATE (DIMP) | | 1445756 | 8.00E-02 I | | | | | 2.9E+03 N | 2.9E+02 N | 1.1E+02 N | 8.2E+04 N | 6.3E+03 N | | |
| 3,3'-DIMETHOXYBENZIDINE | | 119904 | | 1.40E-02 H | | | | 4.8E+00 C | 4.5E-01 C | 2.3E-01 C | 2.0E+02 C | 4.6E+01 C | | |
| N,N-DIMETHYLANILINE | | 121697 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| 2,4-DIMETHYLPHENOL | | 105679 | 2.00E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 3.4E-01 | 6.7E+00 N |
| 2,6-DIMETHYLPHENOL | | 576261 | 6.00E-04 I | | | | | 2.2E+01 N | 2.2E+00 N | 8.1E-01 N | 6.1E+02 N | 4.7E+01 N | | |
| 3,4-DIMETHYLPHENOL | | 95658 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | | |
| 1,2-DINITROBENZENE | | 528290 | 1.00E-04 P | | | | | 3.7E+00 N | 3.7E-01 N | 1.4E-01 N | 1.0E+02 N | 7.8E+00 N | | |
| 1,3-DINITROBENZENE | | 99650 | 1.00E-04 I | | | | | 3.7E+00 N | 3.7E-01 N | 1.4E-01 N | 1.0E+02 N | 7.8E+00 N | 1.8E-03 | 3.7E-02 N |
| 1,4-DINITROBENZENE | | 100254 | 1.00E-04 P | | | | | 3.7E+00 N | 3.7E-01 N | 1.4E-01 N | 1.0E+02 N | 7.8E+00 N | | |
| 4,6-DINITRO-O-CYCLOHEXYL PHENOL | | 131895 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| 2,4-DINITROPHENOL | | 51285 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| DINITROTOLUENE MIX | | | | 6.80E-01 I | | | | 9.8E-02 C | 9.2E-03 C | 4.6E-03 C | 4.2E+00 C | 9.4E-01 C | | |
| 2,4-DINITROTOLUENE | | 121142 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | 2.9E-02 | 5.7E-01 N |
| 2,6-DINITROTOLUENE | | 606202 | 1.00E-03 P | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 1.2E-02 | 2.5E-01 N |
| DINOSEB | | 88857 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 8.7E-03 | 1.7E-01 N |
| 1,4-DIOXANE | | 123911 | | 1.10E-02 I | | | | 6.1E+00 C | 5.7E-01 C | 2.9E-01 C | 2.6E+02 C | 5.8E+01 C | 1.3E-03 | 2.6E-02 C |
| DIPHENYLAMINE | | 122394 | 2.50E-02 I | | | | | 9.1E+02 N | 9.1E+01 N | 3.4E+01 N | 2.6E+04 N | 2.0E+03 N | 1.3E+00 | 2.5E+01 N |
| 1,2-DIPHENYLHYDRAZINE | | 122667 | | 8.00E-01 I | | 8.00E-01 I | | 8.4E-02 C | 7.8E-03 C | 3.9E-03 C | 3.6E+00 C | 8.0E-01 C | 1.3E-04 | 2.5E-03 C |
| DIQUAT | | 85007 | 2.20E-03 I | | | | | 8.0E+01 N | 8.0E+00 N | 3.0E+00 N | 2.2E+03 N | 1.7E+02 N | 1.7E-02 | 3.3E-01 N |
| DISULFOTON | | 298044 | 4.00E-05 I | | | | | 1.5E+00 N | 1.5E-01 N | 5.4E-02 N | 4.1E+01 N | 3.1E+00 N | 3.2E-03 | 6.4E-02 N |

**TABLE B-4**
EPA Region III RBCs 4/6/2007

Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic)
E = EPA-NCEA provisional value O = other P = EPA provisional peer-rev m = Default ADAFs applied, carcinogenic via mutagenic mode of action

Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs

| | | | | | | | Risk-based concentrations | | | | | Region III SSLs | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Soil, for groundwater migration | |
| | | RfDo | CSFo | RfDi | CSFi | | Tap water | Ambient air | Fish | Soil Industrial | Residential | DAF 1 | DAF 20 |
| Chemical | CAS | mg/kg/d | 1/mg/kg/d | mg/kg/d | 1/mg/kg/d | VOC | ug/l | ug/m3 | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| 1,4-DITHIANE | 505293 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| DIURON | 330541 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | 5.8E-02 | 1.2E+00 N |
| ENDOSULFAN | 115297 | 6.00E-03 I | | | | | 2.2E+02 N | 2.2E+01 N | 8.1E+00 N | 6.1E+03 N | 4.7E+02 N | 9.8E-01 | 2.0E+01 N |
| ENDRIN | 72208 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | 2.7E-01 | 5.4E+00 N |
| EPICHLOROHYDRIN | 106898 | 6.00E-03 P | 9.90E-03 I | 2.86E-04 I | 4.20E-03 I | y | 2.1E+00 N | 1.0E+00 N | 3.2E-01 C | 2.9E+02 C | 6.5E+01 C ! | 4.3E-04 | 8.6E-03 N |
| ETHION | 563122 | 5.00E-04 I | | | | | 1.8E+01 N | 1.8E+00 N | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | 3.2E-01 | 6.4E+00 N |
| ETHYL ACETATE | 141786 | 9.00E-01 I | | | | y | 5.5E+03 N | 3.3E+03 N | 1.2E+03 N | 9.2E+05 N | 7.0E+04 N | 1.7E+00 | 3.5E+01 N |
| ETHYLBENZENE | 100414 | 1.00E-01 I | | 2.90E-01 I | | y | 1.3E+03 N | 1.1E+03 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 7.5E-01 | 1.5E+01 N |
| ETHYLENE GLYCOL | 107211 | 2.00E+00 I | | | | | 7.3E+04 N | 7.3E+03 N | 2.7E+03 N | 2.0E+06 N | 1.6E+05 N | 1.5E+01 | 3.0E+02 N |
| ETHYLENE GLYCOL, MONOBUTYL ETHER | 111762 | 5.00E-01 I | | 3.70E+00 I | | | 1.8E+04 N | 1.4E+04 N | 6.8E+02 N | 5.1E+05 N | 3.9E+04 N | | |
| ETHYLENE OXIDE | 75218 | | 1.00E+00 H | | 3.50E-01 H | y | 2.3E-02 C | 1.8E-02 C | 3.2E-03 C | 2.9E+00 C | 6.4E-01 C | 4.8E-06 | 9.5E-05 C |
| ETHYL ETHER | 60297 | 2.00E-01 I | | | | y | 1.2E+03 N | 7.3E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 4.2E-01 | 8.5E+00 N |
| FENAMIPHOS | 22224926 | 2.50E-04 I | | | | | 9.1E+00 N | 9.1E-01 N | 3.4E-01 N | 2.6E+02 N | 2.0E+01 N | 7.8E-03 | 1.6E-01 N |
| FLUOMETURON | 2164172 | 1.30E-02 I | | | | | 4.7E+02 N | 4.7E+01 N | 1.8E+01 N | 1.3E+04 N | 1.0E+03 N | | |
| FLUORINE | 7782414 | 6.00E-02 I | | | | | 2.2E+03 N | 2.2E+02 N | 8.1E+01 N | 6.1E+04 N | 4.7E+03 N | | |
| FOMESAFEN | 72178020 | | 1.90E-01 I | | | | 3.5E-01 C | 3.3E-02 C | 1.7E-02 C | 1.5E+01 C | 3.4E+00 C | | |
| FONOFOS | 944229 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | 1.8E-01 | 3.5E+00 N |
| FORMALDEHYDE | 50000 | 2.00E-01 I | | | 4.50E-02 I | | 7.3E+03 N | 1.4E-01 C | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 1.5E+00 | 3.0E+01 N |
| FURAN | 110009 | 1.00E-03 I | | | | y | 6.1E+00 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 1.5E-03 | 3.0E-02 N |
| FURFURAL | 98011 | 3.00E-03 I | | 1.00E-02 A | | | 1.1E+02 N | 3.7E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | 2.3E-02 | 4.6E-01 N |
| GLYPHOSATE | 1071836 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | 2.6E+01 | 5.3E+02 N |
| HEPTACHLOR | 76448 | 5.00E-04 I | 4.50E+00 I | | 4.50E+00 I | | 1.5E-02 C | 1.4E-03 C | 7.0E-04 C | 6.4E-01 C | 1.4E-01 C | 4.2E-02 | 8.4E-01 C |
| HEPTACHLOR EPOXIDE | 1024573 | 1.30E-05 I | 9.10E+00 I | | 9.10E+00 I | | 7.4E-03 C | 6.9E-04 C | 3.5E-04 C | 3.1E-01 C | 7.0E-02 C | 1.2E-03 | 2.5E-02 C |
| HEXABROMOBENZENE | 87821 | 2.00E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| HEXACHLOROBENZENE | 118741 | 8.00E-04 I | 1.60E+00 I | | 1.60E+00 I | | 4.2E-02 C | 3.9E-03 C | 2.0E-03 C | 1.8E+00 C | 4.0E-01 C | 2.6E-03 | 5.2E-02 C |
| HEXACHLOROBUTADIENE | 87683 | 2.00E-04 H | 7.80E-02 I | | 7.80E-02 I | | 8.6E-01 C ! | 8.0E-02 C ! | 4.0E-02 C ! | 3.7E+01 C ! | 8.2E+00 C ! | 9.2E-02 | 1.8E+00 C |
| ALPHA-HCH | 319846 | | 6.30E+00 I | | 6.30E+00 I | | 1.1E-02 C | 9.9E-04 C | 5.0E-04 C | 4.5E-01 C | 1.0E-01 C | 4.5E-05 | 8.9E-04 C |
| BETA-HCH | 319857 | | 1.80E+00 I | | 1.80E+00 I | | 3.7E-02 C | 3.5E-03 C | 1.8E-03 C | 1.6E+00 C | 3.5E-01 C | 1.6E-04 | 3.1E-03 C |
| GAMMA-HCH (LINDANE) | 58899 | 3.00E-04 I | 1.30E+00 H | | | | 5.2E-02 C | 4.8E-03 C | 2.4E-03 C | 2.2E+00 C | 4.9E-01 C | 2.2E-04 | 4.3E-03 C |
| TECHNICAL HCH | 608731 | | 1.80E+00 I | | 1.80E+00 I | | 3.7E-02 C | 3.5E-03 C | 1.8E-03 C | 1.6E+00 C | 3.5E-01 C | | |
| HEXACHLOROCYCLOPENTADIENE | 77474 | 6.00E-03 I | | 5.7E-05 I | | | 2.2E+02 N | 2.1E-01 N | 8.1E+00 N | 6.1E+03 N | 4.7E+02 N | 8.8E+01 | 1.8E+03 N |
| HEXACHLORODIBENZODIOXIN MIX | 19408743 | | 6.20E+03 I | | 4.55E+03 I | | 1.1E-05 C | 1.4E-06 C | 5.1E-07 C | 4.6E-04 C | 1.0E-04 C | | |
| HEXACHLOROETHANE | 67721 | 1.00E-03 I | 1.40E-02 I | | 1.40E-02 I | | 4.8E+00 C ! | 4.5E-01 C ! | 2.3E-01 C ! | 2.0E+02 C ! | 4.6E+01 C ! | 1.8E-02 | 3.6E-01 C |
| HEXACHLOROPHENE | 70304 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | 1.0E+02 | 2.0E+03 N |
| 1,6-HEXAMETHYLENE DIISOCYANATE | 822060 | | | 2.90E-06 I | | | | 1.1E-02 N | | | | | |
| HEXANE | 110543 | | | 2.00E-01 I | | y | 1.5E+03 N | 7.3E+02 N | | | | 2.9E+00 | 5.8E+01 N |
| HMX | 2691410 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |
| HYDRAZINE | 302012 | | 3.00E+00 I | | 1.70E+01 I | | 2.2E-02 C | 3.7E-04 C | 1.1E-03 C | 9.5E-01 C | 2.1E-01 C | | |
| HYDROGEN CHLORIDE | 7647010 | | | 5.70E-03 I | | | | 2.1E+01 N | | | | | |
| HYDROGEN SULFIDE | 7783064 | 3.00E-03 I | | 5.7E-04 I | | | 1.1E+02 N | 2.1E+00 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | | |
| **IRON | 7439896 | 7.00E-01 P | | | | | 2.6E+04 N | 2.6E+03 N | 9.5E+02 N | 7.2E+05 N | 5.5E+04 N | | |
| ISOBUTANOL | 78831 | 3.00E-01 I | | | | y | 1.8E+03 N | 1.1E+03 N | 4.1E+02 N | 3.1E+05 N | 2.3E+04 N | 5.9E-01 | 1.2E+01 N |
| ISOPHORONE | 78591 | 2.00E-01 I | 9.50E-04 I | | | | 7.0E+01 C | 6.6E+00 C | 3.3E+00 C | 3.0E+03 C | 6.7E+02 C | 2.1E-02 | 4.1E-01 C |
| TETRAETHYLLEAD | 78002 | 1.00E-07 I | | | | | 3.7E-03 N | 3.7E-04 N | 1.4E-04 N | 1.0E-01 N | 7.8E-03 N | 4.6E-05 | 9.2E-04 N |
| KEPONE | 143500 | 5.00E-04 M | | | | | 1.8E+01 N | 1.8E+00 N | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | | |
| LITHIUM | 7439932 | 2.00E-02 E | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | | |
| MALATHION | 121755 | 2.00E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 4.0E-01 | 8.1E+00 N |
| MALEIC ANHYDRIDE | 108316 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| MANGANESE-NONFOOD | 7439965 | 2.00E-02 I | | 1.43E-05 I | | | 7.3E+02 N | 5.2E-02 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 4.8E+01 | 9.5E+02 N |
| MANGANESE-FOOD | 7439965 | 1.40E-01 I | | 1.43E-05 I | | | 5.1E+03 N | 5.2E-02 N | 1.9E+02 N | 1.4E+05 N | 1.1E+04 N | 3.3E+02 | 6.7E+03 N |
| MEPHOSFOLAN | 950107 | 9.00E-05 H | | | | | 3.3E+00 N | 3.3E-01 N | 1.2E-01 N | 9.2E+01 N | 7.0E+00 N | | |
| MEPIQUAT CHLORIDE | 24307264 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| MERCURIC CHLORIDE | 7487947 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | | |
| MERCURY (elemental) | 7439976 | | | 8.60E-05 I | | | | 3.1E-01 N | | | | | |
| METHYLMERCURY | 22967926 | 1.00E-04 I | | | | | 3.7E+00 N | 3.7E-01 N | 1.4E-01 N | 1.0E+02 N | 7.8E+00 N | | |
| METHANOL | 67561 | 5.00E-01 I | | | | | 1.8E+04 N | 1.8E+03 N | 6.8E+02 N | 5.1E+05 N | 3.9E+04 N | 3.8E+00 | 7.5E+01 N |
| METHIDATHION | 950378 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | | |
| METHOXYCHLOR | 72435 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | 1.5E+01 | 3.1E+02 N |
| METHYL ACETATE | 79209 | 1.00E+00 H | | | | y | 6.1E+03 N | 3.7E+03 N | 1.4E+03 N | 1.0E+06 N | 7.8E+04 N | 1.2E+00 | 2.5E+01 N |
| METHYL ACRYLATE | 96333 | 3.00E-02 A | | | | y | 1.8E+02 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | 5.0E-01 | 1.0E+01 N |
| 2-METHYLANILINE | 95534 | | 2.40E-01 H | | | | 2.8E-01 C | 2.6E-02 C | 1.3E-02 C | 1.2E+01 C | 2.7E+00 C | 2.8E-04 | 5.7E-03 C |
| 4-(2-METHYL-4-CHLOROPHENOXY) BUTYRIC ACID | 94815 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| 2-METHYL-4-CHLOROPHENOXYACETIC ACID (MCPA) | 94746 | 5.00E-04 I | | | | | 1.8E+01 N | 1.8E+00 N | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | | |
| 2-(2-METHYL-4-CHLOROPHENOXY)PROPIONIC ACID (MCPP) | 93652 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | | |
| METHYLCYCLOHEXANE | 108872 | | | 8.60E-01 H | | y | 6.3E+03 N | 3.1E+03 N | | | | | |
| METHYLENE BROMIDE | 74953 | 1.00E-02 A | | | | y | 6.1E+01 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | 1.5E-02 | 3.0E-01 N |
| METHYLENE CHLORIDE | 75092 | 6.00E-02 I | 7.50E-03 I | 3.00E-01 M | 1.65E-03 I | y | 4.1E+00 C | 3.8E+00 C | 4.2E-01 C | 3.8E+02 C | 8.5E+01 C | 9.5E-04 | 1.9E-02 C |
| 4,4'-METHYLENE BIS(2-CHLOROANILINE) m | 101144 | 2.00E-03 P | 1.00E-01 P | | 1.30E-01 H | | 2.0E-01 C | 1.5E-02 C | 3.2E-02 C | 2.9E+01 C | 1.6E+00 C | | |
| 4,4'-METHYLENE BIS(N,N'-DIMETHYL)ANILINE | 101611 | | 4.60E-02 I | | | | 1.5E+00 C | 1.4E-01 C | 6.9E-02 C | 6.2E+01 C | 1.4E+01 C | | |
| 4,4'-METHYLENEDIPHENYL ISOCYANATE | 101688 | | | 1.7E-04 I | | | | 6.2E-01 N | | | | | |
| METHYL ETHYL KETONE (2-BUTANONE) | 78933 | 6.00E-01 I | | 1.40E+00 I | | y | 7.0E+03 N | 5.1E+03 N | 8.1E+02 N | 6.1E+05 N | 4.7E+04 N | 1.5E+00 | 2.9E+01 N |
| METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE) | 108101 | | | 8.60E-01 I | | y | 6.3E+03 N | 3.1E+03 N | | | | 2.9E+00 | 5.9E+01 N |
| METHYL METHACRYLATE | 80626 | 1.40E+00 I | | 2.00E-01 I | | y | 1.4E+03 N | 7.3E+02 N | 1.9E+03 N | 1.4E+06 N | 1.1E+05 N | 3.2E-01 | 6.5E+00 N |
| METHYL PARATHION | 298000 | 2.50E-04 I | | | | | 9.1E+00 N | 9.1E-01 N | 3.4E-01 N | 2.6E+02 N | 2.0E+01 N | 4.3E-03 | 8.5E-02 N |
| 2-METHYLPHENOL | 95487 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |
| 3-METHYLPHENOL | 108394 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |
| 4-METHYLPHENOL | 106445 | 5.00E-03 H | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| METHYLSTYRENE MIX | 25013154 | 6.00E-03 A | | 1.00E-02 A | | y | 5.5E+01 N | 3.7E+01 N | 8.1E+00 N | 6.1E+03 N | 4.7E+02 N | 5.1E-02 | 1.0E+00 N |

**TABLE B-4**
EPA Region III RBCs 4/6/2007

Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic)
E = EPA-NCEA provisional value O = other P = EPA provisional peer-rev m = Default ADAFs applied, carcinogenic via mutagenic mode of action

Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs

| Chemical | | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations: Tap water ug/l | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Region III SSLs: Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALPHA-METHYLSTYRENE | | 98839 | 7.00E-02 A | | | | y | 4.3E+02 N | 2.6E+02 N | 9.5E+01 N | 7.2E+04 N | 5.5E+03 N | 4.0E-01 | 7.9E+00 N |
| METHYL TERT-BUTYL ETHER | | 1634044 | | 4.00E-03 O | 8.57E-01 I | | y | 2.6E+00 C | 1.6E+00 C | 7.9E-01 C | 7.2E+02 C | 1.6E+02 C | 5.9E-04 | 1.2E-02 C |
| METOLACHLOR (DUAL) | | 51218452 | 1.50E-01 I | | | | | 5.5E+03 N | 5.5E+02 N | 2.0E+02 N | 1.5E+05 N | 1.2E+04 N | | |
| MIREX | | 2385855 | 2.00E-04 I | | | | | 7.3E+00 N | 7.3E-01 N | 2.7E-01 N | 2.0E+02 N | 1.6E+01 N | | |
| MOLYBDENUM | | 7439987 | 5E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| MONOCHLORAMINE | | 10599903 | 1E-01 I | | 1.00E-01 H | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| NALED | | 300765 | 2E-03 I | | | | | 7.3E+01 N | 7.3E+00 N | 2.7E+00 N | 2.0E+03 N | 1.6E+02 N | | |
| NICKEL REFINERY DUST | | | | | | 8.4E-01 I | | | 7.5E-03 C | | | | | |
| NICKEL | | 7440020 | 2.00E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | | |
| NITRATE | | 14797558 | 1.60E+00 I | | | | | 5.8E+04 N !! | 5.8E+03 N | 2.2E+03 N | 1.6E+06 N | 1.3E+05 N | | |
| NITRITE | | 14797650 | 1.00E-01 I | | | | | 3.7E+03 N !! | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| NITROBENZENE | | 98953 | 5.00E-04 I | | 6.00E-04 A | | y | 3.5E+00 N | 2.2E+00 N | 6.8E-01 N | 5.1E+02 N | 3.9E+01 N | 1.2E-03 | 2.3E-02 N |
| **NITROGLYCERIN | | 55630 | 1.00E-04 P | 1.7E-02 P | | | | 3.7E+00 N | 3.7E-01 N | 1.4E-01 N | 1.0E+02 N | 7.8E+00 N | | |
| 2-NITROPROPANE | | 79469 | | | 5.70E-03 I | 9.40E+00 H | y | 1.3E-03 C | 6.7E-04 C | | | | 3.2E-07 | 6.4E-06 C |
| N-NITROSO-DI-N-BUTYLAMINE | | 924163 | | 5.40E+00 I | | 5.60E+00 I | y | 1.9E-03 C | 1.1E-03 C | 5.8E-04 C | 5.3E-01 C | 1.2E-01 C | 1.4E-06 | 2.7E-05 C |
| N-NITROSODIETHANOLAMINE | | 1116547 | | 2.80E+00 I | | | | 2.4E-02 C | 2.2E-03 C | 1.1E-03 C | 1.0E+00 C | 2.3E-01 C | | |
| **N-NITROSODIETHYLAMINE | m | 55185 | | 1.50E+02 I | | 1.50E+02 I | | 1.4E-04 C | 1.3E-05 C | 2.1E-05 C | 1.9E-02 C | 1.0E-03 C | 3.5E-08 | 7.1E-07 C |
| **N-NITROSODIMETHYLAMINE | m | 62759 | | 5.10E+01 I | | 5.10E+01 I | | 4.2E-04 C | 3.7E-05 C | 6.2E-05 C | 5.6E-02 C | 3.0E-03 C | 9.1E-08 | 1.8E-06 C |
| N-NITROSODIPHENYLAMINE | | 86306 | | 4.90E-03 I | | | | 1.4E+01 C | 1.3E+00 C | 6.4E-01 C | 5.8E+02 C | 1.3E+02 C | 3.8E-02 | 7.6E-01 C |
| N-NITROSODIPROPYLAMINE | | 621647 | | 7.00E+00 I | | | | 9.6E-03 C | 8.9E-04 C | 4.5E-04 C | 4.1E-01 C | 9.1E-02 C | 2.4E-06 | 4.7E-05 C |
| N-NITROSO-N-METHYLETHYLAMINE | | 10595956 | | 2.20E+01 I | | | | 3.0E-03 C | 2.8E-04 C | 1.4E-04 C | 1.3E-01 C | 2.9E-02 C | | |
| N-NITROSOPYRROLIDINE | | 930552 | | 2.10E+00 I | | 2.10E+00 I | | 3.2E-02 C | 3.0E-03 C | 1.5E-03 C | 1.4E+00 C | 3.0E-01 C | | |
| O-NITROTOLUENE | | 88722 | 1.00E-02 H | | | | y | 6.1E+01 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| NUSTAR | | 85509199 | 7.00E-04 I | | | | | 2.6E+01 N | 2.6E+00 N | 9.5E-01 N | 7.2E+02 N | 5.5E+01 N | | |
| ORYZALIN | | 19044883 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |
| OXADIAZON | | 19666309 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| OXAMYL | | 23135220 | 2.50E-02 I | | | | | 9.1E+02 N | 9.1E+01 N | 3.4E+01 N | 2.6E+04 N | 2.0E+03 N | 1.9E-01 | 3.8E+00 N |
| OXYFLUORFEN | | 42874033 | 3.00E-03 I | | | | | 1.1E+02 N | 1.1E+01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | | |
| PARAQUAT DICHLORIDE | | 1910425 | 4.50E-03 I | | | | | 1.6E+02 N | 1.6E+01 N | 6.1E+00 N | 4.6E+03 N | 3.5E+02 N | | |
| PARATHION | | 56382 | 6.00E-03 H | | | | | 2.2E+02 N | 2.2E+01 N | 8.1E+00 N | 6.1E+03 N | 4.7E+02 N | 5.0E-01 | 1.0E+01 N |
| PENTACHLOROBENZENE | | 608935 | 8.00E-04 I | | | | | 2.9E+01 N | 2.9E+00 N | 1.1E+00 N | 8.2E+02 N | 6.3E+01 N | 1.0E+00 | 2.0E+01 N |
| PENTACHLORONITROBENZENE | | 82688 | 3.00E-03 I | 2.60E-01 H | | | | 2.6E-01 C | 2.4E-02 C | 1.2E-02 C | 1.1E+01 C | 2.5E+00 C | 4.1E-03 | 8.2E-02 C |
| PENTACHLOROPHENOL | | 87865 | 3.00E-02 I | 1.20E-01 I | | | | 5.6E-01 C | 5.2E-02 C | 2.6E-02 C | 2.4E+01 C | 5.3E+00 C | | |
| PERCHLORATE | | | 7.00E-04 I | | | | | 2.6E+01 N | 2.6E+00 N | 9.5E-01 N | 7.2E+02 N | 5.5E+01 N | | |
| PERMETHRIN | | 52645531 | 5.00E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | 1.2E+02 | 2.4E+03 N |
| PHENOL | | 108952 | 3.00E-01 I | | | | | 1.1E+04 N | 1.1E+03 N | 4.1E+02 N | 3.1E+05 N | 2.3E+04 N | 3.3E+00 | 6.7E+01 N |
| M-PHENYLENEDIAMINE | | 108452 | 6.00E-03 I | | | | | 2.2E+02 N | 2.2E+01 N | 8.1E+00 N | 6.1E+03 N | 4.7E+02 N | 4.9E-02 | 9.8E-01 N |
| O-PHENYLENEDIAMINE | | 95545 | | 4.70E-02 H | | | | 1.4E+00 C | 1.3E-01 C | 6.7E-02 C | 6.1E+01 C | 1.4E+01 C | | |
| P-PHENYLENEDIAMINE | | 106503 | 1.90E-01 H | | | | | 6.9E+03 N | 6.9E+02 N | 2.6E+02 N | 1.9E+05 N | 1.5E+04 N | | |
| PHOSGENE | | 75445 | | | 8.6E-05 I | | y | 6.3E-01 N | 3.1E-01 N | | | | | |
| PHOSPHINE | | 7803512 | 3.00E-04 I | | 8.60E-05 I | | | 1.1E+01 N | 3.1E-01 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | | |
| PHOSPHORIC ACID | | 7664382 | | | 2.90E-03 I | | | | 1.1E+01 N | | | | | |
| PHOSPHORUS (WHITE) | | 7723140 | 2.00E-05 I | | | | | 7.3E-01 N | 7.3E-02 N | 2.7E-02 N | 2.0E+01 N | 1.6E+00 N | | |
| PHTHALIC ANHYDRIDE | | 85449 | 2.00E+00 I | | 3.43E-02 H | | | 7.3E+04 N | 1.3E+02 N | 2.7E+03 N | 2.0E+06 N | 1.6E+05 N | 2.6E+01 | 5.2E+02 N |
| POLYBROMINATED BIPHENYLS | | | 7.00E-06 H | 8.90E+00 H | | | | 7.5E-03 C | 7.0E-04 C | 3.5E-04 C | 3.2E-01 C | 7.2E-02 C ! | | |
| POLYCHLORINATED BIPHENYLS | | 1336363 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | 2.1E-02 | 4.1E-01 C |
| AROCLOR-1016 | | 12674112 | 7.00E-05 I | 7.00E-02 I | | 7.00E-02 I | | 9.6E-01 C ! | 8.9E-02 C ! | 4.5E-02 C ! | 4.1E+01 C ! | 5.5E+00 N | 2.1E-01 | 4.2E+00 C |
| AROCLOR-1221 | | 11104282 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | | |
| AROCLOR-1232 | | 11141165 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | | |
| AROCLOR-1242 | | 53469219 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | | |
| AROCLOR-1248 | | 12672296 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | | |
| AROCLOR-1254 | | 11097691 | 2.00E-05 I | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C ! | 5.4E-02 | 1.1E+00 C |
| AROCLOR-1260 | | 11096825 | | 2.00E+00 I | | 2.00E+00 I | | 3.3E-02 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | | |
| POLYNUCLEAR AROMATIC HYDROCARBONS: | | | | | | | | | | | | | | |
| ACENAPHTHENE | | 83329 | 6.00E-02 I | | | | y | 3.7E+02 N | 2.2E+02 N | 8.1E+01 N | 6.1E+04 N | 4.7E+03 N | 5.2E+00 | 1.0E+02 N |
| ANTHRACENE | | 120127 | 3.00E-01 I | | | | y | 1.8E+03 N | 1.1E+03 N | 4.1E+02 N | 3.1E+05 N | 2.3E+04 N | 2.3E+01 | 4.7E+02 N |
| BENZ[A]ANTHRACENE | m | 56553 | | 7.30E-01 E | | | | 3.0E-02 C | 3.0E-03 C | 4.3E-03 C | 3.9E+00 C | 2.2E-01 C | 2.4E-02 | 4.8E-01 C |
| BENZO[B]FLUORANTHENE | m | 205992 | | 7.30E-01 E | | | | 3.0E-02 C | 3.0E-03 C | 4.3E-03 C | 3.9E+00 C | 2.2E-01 C | 7.4E-02 | 1.5E+00 C |
| BENZO[K]FLUORANTHENE | m | 207089 | | 7.30E-02 E | | | | 3.0E-01 C | 3.0E-02 C | 4.3E-02 C | 3.9E+01 C | 2.2E+00 C | 7.4E-01 | 1.5E+01 C |
| BENZO[A]PYRENE | m | 50328 | | 7.30E+00 I | | 3.10E+00 E | | 3.0E-03 C | 6.0E-04 C | 4.3E-04 C | 3.9E-01 C | 2.2E-02 C | 6.1E-03 | 1.2E-01 C |
| CARBAZOLE | | 86748 | | 2.00E-02 H | | | | 3.3E+00 C | 3.1E-01 C | 1.6E-01 C | 1.4E+02 C | 3.2E+01 C | 2.3E-02 | 4.7E-01 C |
| CHRYSENE | m | 218019 | | 7.30E-03 E | | | | 3.0E+00 C | 3.0E-01 C | 4.3E-01 C | 3.9E+02 C | 2.2E+01 C | 2.4E+00 | 4.8E+01 C |
| DIBENZ[A,H]ANTHRACENE | m | 53703 | | 7.30E+00 E | | | | 3.0E-03 C | 3.0E-04 C | 4.3E-04 C | 3.9E-01 C | 2.2E-02 C | 2.3E-02 | 4.6E-01 C |
| FLUORANTHENE | | 206440 | 4.00E-02 I | | | | | 1.5E+03 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | 3.1E+02 | 6.3E+03 N |
| FLUORENE | | 86737 | 4.00E-02 I | | | | y | 2.4E+02 N | 1.5E+02 N | 5.4E+01 N | 4.1E+04 N | 3.1E+03 N | 6.8E+00 | 1.4E+02 N |
| INDENO[1,2,3-C,D]PYRENE | m | 193395 | | 7.30E-01 E | | | | 3.0E-02 C | 3.0E-03 C | 4.3E-03 C | 3.9E+00 C | 2.2E-01 C | 2.1E-01 | 4.2E+00 C |
| 2-METHYLNAPHTHALENE | | 91576 | 4.00E-03 I | | | | y | 2.4E+01 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | 2.2E-01 | 4.4E+00 N |
| NAPHTHALENE | | 91203 | 2.00E-02 I | | 9.00E-04 I | | y | 6.5E+00 N | 3.3E+00 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | 7.7E-03 | 1.5E-01 N |
| PYRENE | | 129000 | 3.00E-02 I | | | | y | 1.8E+02 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | 3.4E+01 | 6.8E+02 N |
| PROMETON | | 1610180 | 1.50E-02 I | | | | | 5.5E+02 N | 5.5E+01 N | 2.0E+01 N | 1.5E+04 N | 1.2E+03 N | | |
| PROMETRYN | | 7287196 | 4.00E-03 I | | | | | 1.5E+02 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | | |
| PROPACHLOR | | 1918167 | 1.30E-02 I | | | | | 4.7E+02 N | 4.7E+01 N | 1.8E+01 N | 1.3E+04 N | 1.0E+03 N | | |
| PROPARGITE | | 2312358 | 2.00E-02 I | | | | | 7.3E+02 N | 7.3E+01 N | 2.7E+01 N | 2.0E+04 N | 1.6E+03 N | | |
| PROPYLENE GLYCOL, MONOETHYL ETHER | | 52125538 | 7.00E-01 H | | | | | 2.6E+04 N | 2.6E+03 N | 9.5E+02 N | 7.2E+05 N | 5.5E+04 N | | |
| PROPYLENE GLYCOL, MONOMETHYL ETHER | | 107982 | 7.00E-01 H | | 5.70E-01 I | | | 2.6E+04 N | 2.1E+03 N | 9.5E+02 N | 7.2E+05 N | 5.5E+04 N | | |
| PURSUIT | | 81335775 | 2.50E-01 I | | | | | 9.1E+03 N | 9.1E+02 N | 3.4E+02 N | 2.6E+05 N | 2.0E+04 N | | |
| PYRIDINE | | 110861 | 1.00E-03 I | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | | |
| QUINOLINE | | 91225 | | 3.00E+00 I | | | | 2.2E-02 C | 2.1E-03 C | 1.1E-03 C | 9.5E-01 C | 2.1E-01 C | | |

**TABLE B-4**
EPA Region III RBCs 4/6/2007

Sources: I = IRIS H = HEAST A = HEAST Alternate M = ATSDR MRL (chronic)
E = EPA-NCEA provisional value O = other P = EPA provisional peer-rev m = Default ADAFs applied, carcinogenic via mutagenic mode of action

Basis: C = Carcinogenic effects N = Noncarcinogenic effects ! = RBC at HI of 0.1 < RBC-c; see Alternate RBCs !! = See Alternate RBCs

| Chemical | CAS | RfDo mg/kg/d | CSFo 1/mg/kg/d | RfDi mg/kg/d | CSFi 1/mg/kg/d | VOC | Risk-based concentrations: Tap water ug/l | Ambient air ug/m3 | Fish mg/kg | Soil Industrial mg/kg | Residential mg/kg | Region III SSLs: Soil, for groundwater migration DAF 1 mg/kg | DAF 20 mg/kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RDX | 121824 | 3.00E-03 I | 1.10E-01 I | | | | 6.1E-01 C | 5.7E-02 C | 2.9E-02 C | 2.6E+01 C | 5.8E+00 C | | |
| RESMETHRIN | 10453868 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| ROTENONE | 83794 | 4.00E-03 I | | | | | 1.5E+02 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | | |
| SELENIUM | 7782492 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | 9.5E-01 | 1.9E+01 N |
| SILVER | 7440224 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | 1.6E+00 | 3.1E+01 N |
| SIMAZINE | 122349 | 5.00E-03 I | 1.20E-01 H | | | | 5.6E-01 C | 5.2E-02 C | 2.6E-02 C | 2.4E+01 C | 5.3E+00 C | 1.7E-04 | 3.3E-03 C |
| SODIUM DIETHYLDITHIOCARBAMATE | 148185 | 3.00E-02 I | 2.70E-01 H | | | | 2.5E-01 C | 2.3E-02 C | 1.2E-02 C | 1.1E+01 C | 2.4E+00 C | | |
| STRONTIUM, STABLE | 7440246 | 6.00E-01 I | | | | | 2.2E+04 N | 2.2E+03 N | 8.1E+02 N | 6.1E+05 N | 4.7E+04 N | 7.7E+02 | 1.5E+04 N |
| STRYCHNINE | 57249 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | 8.3E-03 | 1.7E-01 N |
| STYRENE | 100425 | 2.00E-01 I | | 2.86E-01 I | | y | 1.6E+03 N | 1.0E+03 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 2.9E+00 | 5.7E+01 N |
| 2,3,7,8-TETRACHLORODIBENZODIOXIN | 1746016 | | 1.50E+05 H | | 1.50E+05 H | | 4.5E-07 C | 4.2E-08 C | 2.1E-08 C | 1.9E-05 C | 4.3E-06 C | 4.3E-07 | 8.6E-06 C |
| 1,2,4,5-TETRACHLOROBENZENE | 95943 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | 3.3E-02 | 6.6E-01 N |
| 1,1,1,2-TETRACHLOROETHANE | 630206 | 3.00E-02 I | 2.60E-02 I | | 2.60E-02 I | y | 4.1E-01 C | 2.4E-01 C | 1.2E-01 C | 1.1E+02 C | 2.5E+01 C | 2.0E-04 | 4.0E-03 C |
| **1,1,2,2-TETRACHLOROETHANE | 79345 | | 2.00E-01 I | | 2.00E-01 I | y | 5.3E-02 C | 3.1E-02 C | 1.6E-02 C | 1.4E+01 C | 3.2E+00 C | 3.4E-05 | 6.8E-04 C |
| TETRACHLOROETHENE | 127184 | 1.00E-02 I | 5.4E-01 O | 8.0E-02 M | 2.00E-02 O | y | 1.0E-01 C | 3.1E-01 C | 5.8E-03 C | 5.3E+00 C | 1.2E+00 C | 2.3E-04 | 4.7E-03 C |
| 2,3,4,6-TETRACHLOROPHENOL | 58902 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| P,A,A,A-TETRACHLOROTOLUENE | 5216251 | | 2.00E+01 H | | | | 3.3E-03 C | 3.1E-04 C | 1.6E-04 C | 1.4E-01 C | 3.2E-02 C | | |
| 1,1,1,2-TETRAFLUOROETHANE | 811972 | | | 2.29E+01 I | | y | 1.7E+05 N | 8.4E+04 N | | | | | |
| TETRAHYDROFURAN | 109999 | 2.00E-01 E | 7.6E-03 E | 8.6E-02 E | 6.8E-03 E | | 8.8E+00 C | 9.2E-01 C | 4.2E-01 C | 3.8E+02 C | 8.4E+01 C | | |
| TETRYL | 479458 | 4.00E-03 P | | | | | 1.5E+02 N | 1.5E+01 N | 5.4E+00 N | 4.1E+03 N | 3.1E+02 N | | |
| THALLIUM | 7440280 | 7.00E-05 O | | | | | 2.6E+00 N | 2.6E-01 N | 9.5E-02 N | 7.2E+01 N | 5.5E+00 N | 1.8E-01 | 3.6E+00 N |
| THALLIUM ACETATE | 563688 | 9.00E-05 I | | | | | 3.3E+00 N | 3.3E-01 N | 1.2E-01 N | 9.2E+01 N | 7.0E+00 N | | |
| THALLIUM CARBONATE | 6533739 | 8.00E-05 I | | | | | 2.9E+00 N | 2.9E-01 N | 1.1E-01 N | 8.2E+01 N | 6.3E+00 N | | |
| THALLIUM CHLORIDE | 7791120 | 8.00E-05 I | | | | | 2.9E+00 N | 2.9E-01 N | 1.1E-01 N | 8.2E+01 N | 6.3E+00 N | | |
| THALLIUM NITRATE | 10102451 | 9.00E-05 I | | | | | 3.3E+00 N | 3.3E-01 N | 1.2E-01 N | 9.2E+01 N | 7.0E+00 N | | |
| THALLIUM SULFATE (2:1) | 7446186 | 8.00E-05 I | | | | | 2.9E+00 N | 2.9E-01 N | 1.1E-01 N | 8.2E+01 N | 6.3E+00 N | | |
| THIOBENCARB | 28249776 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | | |
| TIN | 7440315 | 6.00E-01 H | | | | | 2.2E+04 N | 2.2E+03 N | 8.1E+02 N | 6.1E+05 N | 4.7E+04 N | | |
| TOLUENE | 108883 | 8.00E-02 I | | 1.40E+00 I | | y | 2.3E+03 N | 5.1E+03 N | 1.1E+02 N | 8.2E+04 N | 6.3E+03 N | 1.3E+00 | 2.7E+01 N |
| TOLUENE-2,4-DIAMINE | 95807 | | 3.20E+00 H | | | | 2.1E-02 C | 2.0E-03 C | 9.9E-04 C | 8.9E-01 C | 2.0E-01 C | | |
| TOLUENE-2,5-DIAMINE | 95705 | 6.00E-01 H | | | | | 2.2E+04 N | 2.2E+03 N | 8.1E+02 N | 6.1E+05 N | 4.7E+04 N | | |
| TOLUENE-2,6-DIAMINE | 823405 | 3.00E-02 P | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| P-TOLUIDINE | 106490 | | 1.90E-01 H | | | | 3.5E-01 C | 3.3E-02 C | 1.7E-02 C | 1.5E+01 C | 3.4E+00 C | 3.0E-04 | 5.9E-03 C |
| TOXAPHENE | 8001352 | | 1.10E+00 I | | 1.10E+00 I | | 6.1E-02 C | 5.7E-03 C | 2.9E-03 C | 2.6E+00 C | 5.8E-01 C | 3.1E-02 | 6.3E-01 C |
| 1,2,4-TRIBROMOBENZENE | 615543 | 5.00E-03 I | | | | | 1.8E+02 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | | |
| TRIBUTYLTIN OXIDE | 56359 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | | |
| 2,4,6-TRICHLOROANILINE | 634935 | | 3.40E-02 H | | | | 2.0E+00 C | 1.8E-01 C | 9.3E-02 C | 8.4E+01 C | 1.9E+01 C | | |
| 1,2,4-TRICHLOROBENZENE | 120821 | 1.00E-02 I | | | | y | 6.1E+01 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | 1.2E-01 | 2.4E+00 N |
| 1,1,1-TRICHLOROETHANE | 71556 | 2.80E-01 E | | | | y | 1.7E+03 N | 1.0E+03 N | 3.8E+02 N | 2.9E+05 N | 2.2E+04 N | 1.6E+00 | 3.2E+01 N |
| 1,1,2-TRICHLOROETHANE | 79005 | 4.00E-03 I | 5.70E-02 I | | 5.60E-02 I | y | 1.9E-01 C | 1.1E-01 C | 5.5E-02 C | 5.0E+01 C | 1.1E+01 C | 3.9E-05 | 7.8E-04 C |
| TRICHLOROETHENE | 79016 | 3.00E-04 E | 4.00E-01 E | 1.00E-02 E | 4.00E-01 E | y | 2.6E-02 C | 1.6E-02 C | 7.9E-03 C | 7.2E+00 C | 1.6E+00 C | 1.3E-05 | 2.6E-04 C |
| TRICHLOROFLUOROMETHANE | 75694 | 3.00E-01 I | | 2.00E-01 A | | y | 1.3E+03 N | 7.3E+02 N | 4.1E+02 N | 3.1E+05 N | 2.3E+04 N | 1.1E+00 | 2.3E+01 N |
| 2,4,5-TRICHLOROPHENOL | 95954 | 1.00E-01 I | | | | | 3.7E+03 N | 3.7E+02 N | 1.4E+02 N | 1.0E+05 N | 7.8E+03 N | | |
| 2,4,6-TRICHLOROPHENOL | 88062 | | 1.10E-02 I | | 1.00E-02 I | | 6.1E+00 C | 6.3E-01 C | 2.9E-01 C | 2.6E+02 C | 5.8E+01 C | | |
| 2,4,5-T | 93765 | 1.00E-02 I | | | | | 3.7E+02 N | 3.7E+01 N | 1.4E+01 N | 1.0E+04 N | 7.8E+02 N | 9.8E-02 | 2.0E+00 N |
| 2-(2,4,5-TRICHLOROPHENOXY)PROPIONIC ACID | 93721 | 8.00E-03 I | | | | | 2.9E+02 N | 2.9E+01 N | 1.1E+01 N | 8.2E+03 N | 6.3E+02 N | 1.1E+00 | 2.1E+01 N |
| 1,1,2-TRICHLOROPROPANE | 598776 | 5.00E-03 I | | | | y | 3.0E+01 N | 1.8E+01 N | 6.8E+00 N | 5.1E+03 N | 3.9E+02 N | 1.2E-02 | 2.5E-01 N |
| 1,2,3-TRICHLOROPROPANE | 96184 | 6.00E-03 I | 2.00E+00 E | 1.4E-03 E | | y | 5.3E-03 C | 3.1E-03 C | 1.6E-03 C | 1.4E+00 C | 3.2E-01 C | 1.8E-06 | 3.6E-05 C |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 76131 | 3.00E+01 I | | 8.60E+00 H | | y | 5.9E+04 N | 3.1E+04 N | 4.1E+04 N | 3.1E+07 N | 2.3E+06 N | 1.2E+02 | 2.3E+03 N |
| 1,3,5-TRINITROBENZENE | 99354 | 3.00E-02 I | | | | | 1.1E+03 N | 1.1E+02 N | 4.1E+01 N | 3.1E+04 N | 2.3E+03 N | | |
| 2,4,6-TRINITROTOLUENE | 118967 | 5.00E-04 I | 3.00E-02 I | | | | 2.2E+00 C ! | 2.1E-01 C ! | 1.1E-01 C ! | 9.5E+01 C ! | 2.1E+01 C ! | | |
| URANIUM (SOLUBLE SALTS; from IRIS) | 7440611 | 3.00E-03 I | | 8.6E-05 M | | | 1.1E+02 N | 3.1E-01 N | 4.1E+00 N | 3.1E+03 N | 2.3E+02 N | | |
| URANIUM (SOLUBLE SALTS; provisional) | 7440611 | 2.00E-04 E | | 8.6E-05 M | | | 7.3E+00 N | 3.1E-01 N | 2.7E-01 N | 2.0E+02 N | 1.6E+01 N | | |
| VANADIUM | 7440622 | 1.00E-03 E | | | | | 3.7E+01 N | 3.7E+00 N | 1.4E+00 N | 1.0E+03 N | 7.8E+01 N | 3.7E+01 | 7.3E+02 N |
| VINCLOZOLIN | 50471448 | 2.50E-02 I | | | | | 9.1E+02 N | 9.1E+01 N | 3.4E+01 N | 2.6E+04 N | 2.0E+03 N | | |
| VINYL ACETATE | 108054 | 1.00E+00 H | | 5.71E-02 I | | y | 4.1E+02 N | 2.1E+02 N | 1.4E+03 N | 1.0E+06 N | 7.8E+04 N | 8.7E-02 | 1.7E+00 N |
| VINYL CHLORIDE inc earlylife(see cover memos) | 75014 | 3.00E-03 I | 1.40E+00 I | 2.8E-02 I | 3.00E-02 I | y | 1.5E-02 C | 7.2E-02 C | | | 9.0E-02 C | 6.2E-06 | 1.2E-04 C |
| VINYL CHLORIDE: adult (see cover memos) | 75014 | 3.00E-03 I | 7.20E-01 I | 2.8E-02 I | 1.5E-02 I | y | | | 4.4E-03 C | 4.0E+00 C | | | |
| WARFARIN | 81812 | 3.00E-04 I | | | | | 1.1E+01 N | 1.1E+00 N | 4.1E-01 N | 3.1E+02 N | 2.3E+01 N | 2.2E-02 | 4.4E-01 N |
| XYLENES | 1330207 | 2.00E-01 I | | 3.00E-02 I | | y | 2.1E+02 N | 1.1E+02 N | 2.7E+02 N | 2.0E+05 N | 1.6E+04 N | 1.5E-01 | 3.0E+00 N |
| ZINC | 7440666 | 3.00E-01 I | | | | | 1.1E+04 N | 1.1E+03 N | 4.1E+02 N | 3.1E+05 N | 2.3E+04 N | 6.8E+02 | 1.4E+04 N |
| ZINEB | 12122677 | 5E-02 I | | | | | 1.8E+03 N | 1.8E+02 N | 6.8E+01 N | 5.1E+04 N | 3.9E+03 N | | |

Supplement to RBC Table: Noncancer RBCs for "!" Chemicals Last updated: 4/11/2006

These are the noncancer RBCs at an HI of 1 and 0.1 for "!" chemicals.
They are shown because screening at an HI of 0.1, in accordance with Region III guidance, will result in noncancer RBCs being lower than the cancer RBCs for certain chemicals marked with "!" on the standard RBC table.

| | ug/l Tap | | ug/m3 Air | | mg/kg Fish | | mg/kg Industrial | | mg/kg Residential | |
|---|---|---|---|---|---|---|---|---|---|---|
| HI | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 | 1 | 0.1 |
| aniline | | | | | | | | | 547.5 | 54.75 |
| epichlorohydrin | | | | | | | | | 469 | 46.9 |
| hexachlorobutadiene | 7.3 | 0.73 | 0.73 | 0.073 | 0.27 | 0.027 | 204 | 20 | 15.6 | 1.56 |
| hexachloroethane | 36.5 | 3.65 | 3.65 | 0.365 | 1.35 | 0.135 | 1022 | 102 | 78 | 7.8 |
| polybrominated biphenyls | | | | | | | | | 0.55 | 0.055 |
| aroclor-1016 | 2.55 | 0.255 | 0.255 | 0.0255 | 0.09 | 0.009 | 72 | 7.2 | | |
| aroclor-1254 | | | | | | | | | 1.56 | 0.156 |
| 2,4,6-trinitrotoluene | 1.83E+01 | 1.83E+00 | 1.8 | 0.18 | 0.68 | 0.068 | 511 | 51 | 39 | 3.9 |

Nitrate and nitrite have MCLs of 10000 ug/L and 1000 ug/L, respectively, based on protection against methemoglobinemia in infants.
These MCLs may serve as alternate tap water RBCs for populations that include infants, because they are expected to be more sensitive to this endpoint than adults.

*J. Soto assisted in the preparation of the original version of this table*