**Section 620.420 Groundwater Quality Standards for Class II: General Resource Groundwater**

a) Inorganic Chemical Constituents

1) Except due to natural causes or as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

|  |  |
| --- | --- |
| Constituent | Standard |
|  | (mg/L) |
|  |
| Antimony | 0.024 |
| Arsenic\* | 0.2 |
| Barium | 2.0 |
| Beryllium | 0.5 |
| Cadmium | 0.05 |
| Chromium | 1.0 |
| Cobalt | 1.0 |
| Cyanide | 0.6 |
| Fluoride | 4.0 |
| Lead | 0.1 |
| Mercury | 0.01 |
| Nitrate as N | 100.0 |
| Perchlorate | 0.0049 |
| Thallium | 0.02 |
| Vanadium | 0.1 |
|  |
| \*Denotes a carcinogen. |  |

2) Except as provided in Section 620.450 or subsection (a)(3) or (e) of this Section, concentrations of the following chemical constituents must not be exceeded in Class II groundwater:

|  |  |
| --- | --- |
| Constituent | Standard |
|  | (mg/L) |
|  |  |
| Boron | 2.0 |
| Chloride | 200.0 |
| Copper | 0.65 |
| Iron | 5.0 |
| Manganese | 10.0 |
| Nickel | 2.0 |
| Selenium | 0.05 |
| Total Dissolved Solids |  |
| (TDS) | 1,200.0 |
| Sulfate | 400.0 |
| Zinc | 10.0 |

3) The standard for any inorganic chemical constituent listed in subsection (a)(2) of this Section, for barium, or for pH does not apply to groundwater within fill material or within the upper 10 feet of parent material under such fill material on a site not within the rural property class for which:

A) Prior to November 25, 1991, surficial characteristics have been altered by the placement of such fill material so as to impact the concentration of the parameters listed in subsection (a)(3) of this Section, and any on-site groundwater monitoring of such parameters is available for review by the Agency.

B) On November 25, 1991, surficial characteristics are in the process of being altered by the placement of such fill material, that proceeds in a reasonably continuous manner to completion, so as to impact the concentration of the parameters listed in subsection (a)(3) of this Section, and any on-site groundwater monitoring of such parameters is available for review by the Agency.

4) For purposes of subsection (a)(3) of this Section, the term "fill material" means clean earthen materials, slag, ash, clean demolition debris, or other similar materials.

b) Organic Chemical Constituents

1) Except due to natural causes or as provided in Section 620.450 or subsection (b)(2) or (e) of this Section, concentrations of the following organic chemical constituents must not be exceeded in Class II groundwater:

|  |  |
| --- | --- |
| Constituent | Standard |
|  | (mg/L) |
|  |
| Acenaphthene | 2.1 |
| Acetone | 6.3 |
| Alachlor\* | 0.010 |
| Aldicarb | 0.015 |
| Anthracene | 10.5 |
| Atrazine | 0.015 |
| Benzene\* | 0.025 |
| Benzo(a)anthracene\* | 0.00065 |
| Benzo(b)fluoranthene\* | 0.0009 |
| Benzo(k)fluoranthene\* | 0.006 |
| Benzo(a)pyrene\* | 0.002 |
| Benzoic acid | 28.0 |
| 2-Butanone (MEK) | 4.2 |
| Carbon Disulfide | 3.5 |
| Carbofuran | 0.2 |
| Carbon Tetrachloride\* | 0.025 |
| Chlordane\* | 0.01 |
| Chloroform\* | 0.35 |
| Chrysene\* | 0.06 |
| Dalapon | 2.0 |
| Dibenzo(a,h)anthracene\* | 0.0015 |
| Dicamba | 0.21 |
| Dichlorodifluoromethane | 7.0 |
| 1,1-Dichloroethane | 7.0 |
| Dichloromethane\* | 0.05 |
| Di(2-ethylhexyl)phthalate\* | 0.06 |
| Diethyl Phthalate | 5.6 |
| Di-n-butyl Phthalate | 3.5 |
| Dinoseb | 0.07 |
| Endothall | 0.1 |
| Endrin | 0.01 |
| Ethylene Dibromide\* | 0.0005 |
| Fluoranthene | 1.4 |
| Fluorene | 1.4 |
| Heptachlor\* | 0.002 |
| Heptachlor Epoxide\* | 0.001 |
| Hexachlorocyclopentadiene | 0.5 |
| Indeno(1,2,3-cd)pyrene\* | 0.0022 |
| Isopropylbenzene (Cumene) | 3.5 |
| Lindane (Gamma-Hexachloro cyclophexane) | 0.001 |
| 2,4-D | 0.35 |
| Ortho-Dichlorobenze | 1.5 |
| Para-Dichlorobenzene | 0.375 |
| 1,2-Dibromo-3-Chloropropane\* | 0.002 |
| 1,2-Dichloroethane\* | 0.025 |
| 1,1-Dichloroethylene | 0.035 |
| cis-1,2-Dichloroethylene | 0.2 |
| Trans-1,2-Dichloroethylene | 0.5 |
| 1,2-Dichloropropane\* | 0.025 |
| Ehylbenzene | 1.0 |
| MCPP (Mecoprop) | 0.007 |
| Methoxychlor | 0.2 |
| 2-Methylnaphthalene | 0.14 |
| 2-Methylphenol | 0.35 |
| Methyl Tertiary-Butyl Ether (MTBE) | 0.07 |
| Monochlorobenzene | 0.5 |
| Naphthalene | 0.22 |
| P-Dioxane\* | 0.0077 |
| Pentachlorophenol\* | 0.005 |
| Phenols | 0.1 |
| Picloram | 5.0 |
| Pyrene | 1.05 |
| Polychlorinated Biphenyls (PCBs) (as decachloro-biphenyl)\* | 0.0025 |
| alpha-BHC (alpha-Benzenehexachloride)\* | 0.00055 |
| Simazine | 0.04 |
| Styrene | 0.5 |
| 2,4,5-TP | 0.25 |
| Tetrachloroethylene\* | 0.025 |
| Toluene | 2.5 |
| Toxaphene\* | 0.015 |
| 1,1,1-Trichloroethane | 1.0 |
| 1,2,4-Trichlorobenzene | 0.7 |
| 1,1,2-Trichloroethane | 0.05 |
| Trichloroethylene\* | 0.025 |
| Trichlorofluoromethane | 10.5 |
| Vinyl Chloride\* | 0.01 |
| Xylenes | 10.0 |
|  |
| \* Denotes a carcinogen. |  |

2) The standards for pesticide chemical constituents listed in subsection (b)(1) of this Section do not apply to groundwater within 10 feet of the land surface, provided that the concentrations of such constituents result from the application of pesticides in a manner consistent with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (7 USC 136 et seq.) and the Illinois Pesticide Act [415 ILCS 60].

c) Explosive Constituents

Concentrations of the following explosive constituents must not exceed the Class II groundwater standard:

|  |  |
| --- | --- |
| Constituent | Standard |
|  | (mg/L) |
|  |
| 1,3-Dinitrobenzene | 0.0007 |
| 2,4-Dinitrotoluene\* | 0.0001 |
| 2,6-Dinitrotoluene\* | 0.00031 |
| HMX (High Melting Explosive, Octogen) | 1.4 |
| Nitrobenzene | 0.014 |
| RDX (Royal Demolition |  |
| Explosive, Cyclonite) | 0.084 |
| 1,3,5-Trinitrobenzene | 0.84 |
| 2,4,6-Trinitrotoluene (TNT) | 0.014 |
|  |
| \*Denotes a carcinogen. |  |

d) Complex Organic Chemical Mixtures

 Concentrations of the following organic chemical constituents of gasoline, diesel fuel, or heating fuel must not be exceeded in Class II groundwater:

|  |  |
| --- | --- |
| Constituent | Standard |
|  | (mg/L) |
|  |  |
| Benzene\* | 0.025 |
| BETX | 13.525 |
|  |  |
| \*Denotes a carcinogen |

e) pH

 Except due to natural causes, a pH range of 6.5 - 9.0 units must not be exceeded in Class II groundwater that is within 5 feet of the land surface.

(Source: Amended at 37 Ill. Reg. 16529, effective October 7, 2013)