

**TITLE 47  
LEGISLATIVE RULE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WATER RESOURCES**

**SERIES 12  
REQUIREMENTS GOVERNING GROUNDWATER STANDARDS**

**§47-12-1. General.**

1.1. Scope. -- The purpose of this Legislative rule is to establish minimum standards of purity and quality for groundwater located within this State.

1.2. Authority. -- W. Va. Code § 22-12-4

1.3. Filing Date. -- April 22, 2010

1.4. Effective Date. -- July 1, 2010

**§47-12-2. Definitions.**

As used in this rule:

2.1. "Act" means the Groundwater Protection Act, W. Va. Code §22-12-1, et seq.

2.2. "Constituent" means any chemical or biological substance found in groundwater due to either natural or man-made conditions.

2.3. "Groundwater" means the water occurring in the zone of saturation beneath the seasonal high water table, or any perched water zones.

2.4. "Person" means any industrial user, public or private corporation, institution, association, firm or company organized or existing under the laws of this or any other state or country; the State of West Virginia and any of its political subdivisions, including any county commission or municipal corporation; any governmental agency, including federal facilities; industry; sanitary district; public service district; soil conservation district; watershed improvement district; partnership; trust; estate; person or individual;

group of persons or individuals acting individually or as a group; or any legal entity whatever.

**§47-12-3. Groundwater Standards.**

3.1. Except as provided in subsections 3.2 and 3.3 below, the standards of purity and quality for groundwater in the state shall be the constituent concentrations found in Appendix A of this rule.

3.2. Concentration of a constituent in excess of otherwise applicable groundwater quality standards shall be governed as follows:

3.2.a. Where the concentration of a constituent exceeds an otherwise applicable groundwater quality standards as a result of natural conditions, the naturally occurring level of that constituent shall become the groundwater quality standard for the affected area.

3.2.b. Where the concentration of a certain constituent exceeds an otherwise applicable groundwater quality standard due to human-induced contamination, no further contamination by that constituent shall be allowed and every reasonable effort shall be made to identify, remove or mitigate the source of such contamination and to strive, where practical, to reduce the level of contamination over time to support drinking water use.

3.3. Constituents in groundwater shall not cause a violation of the standards found at 47CSR2 in any surface water.

3.4. Groundwater quality standards do not apply:

3.4.a. Within areas of geologic formations

that are site-specific to site production or storage zones of crude oil or natural gas and that are utilized for the exploration, development or production of crude oil or natural gas permitted pursuant to W.Va. Code §§ 22-6-1, et seq., 22-7-1, et seq., 22-8-1, et seq., 22-9-1, et seq., or 22-10-1, et seq.; and

3.4.b. Within areas of geologic formations that are site-specific to the injection zones of Class II or III or wells permitted pursuant to the statutes and regulations governing the underground injection control program.

3.4.c. To any constituent or any class of activities for which a variance from groundwater quality standards has been granted by the Secretary pursuant to W. Va. Code § 22-12-5(l).

3.4.d. To coal extraction and earth disturbing activities directly involved in coal extraction that are subject to either or both W. Va. Code §§ 22-3-1, et seq. or 22-11-1, et seq.

### 3.5. Measurement of inorganic constituents

3.5.a. Compliance with groundwater protection standards for inorganic constituents shall be determined in terms of dissolved concentrations rather than total concentrations, except as specified in subdivision 3.5.b below.

3.5.b. Any groundwater regulatory agency as specified in the Act may determine compliance with groundwater protection standards for inorganic constituents utilizing total concentration values only as necessary to protect human health or the environment. Appropriate situations for utilizing total concentrations values include, but are not limited to, the following:

3.5.b.1. The sample is from a carbonate formation in an area of karst terrane;

3.5.b.2. The sample is from a collection point for groundwater used for private or public water supply;

3.5.b.3. The sample is from a spring

or seep; or

3.5.b.3. The sample is one for which State or Federal regulations require that total inorganic concentrations be measured.

### **§47-12-4. Hazardous Waste Treatment, Storage or Disposal Facilities.**

4.1. Nothing in this rule prohibits the Division of Water and Waste Management, acting in accordance with federal regulations, from using criteria other than the standards specified in this rule for purposes of determining the need for corrective action at hazardous waste treatment, storage or disposal facilities, as provided in 40 C.F.R. Parts 264 and 265, Subpart F.

## APPENDIX A

Organic Compounds

<u>Constituent</u>	<u>Limit (mg/L)</u> (except where noted)
Alachlor	0.002
Aldicarb	0.003
Aldicarb sulfone	0.002
Aldicarb sulfoxide	0.004
Atrazine	0.003
Benzene	0.005
Benzo (a) pyrene (PAH)	0.0002
Bromodichloromethane (THM) <sup>1</sup>	0.08
Bromoform (THM) <sup>1</sup>	0.08
Carbofuran	0.04
Carbon tetrachloride	0.005
Chlordane	0.002
Chloroform (THM) <sup>1</sup>	0.08
2, 4-D	0.07
Dalapon	0.2
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dibromochloromethane (THM) <sup>1</sup>	0.08
Dibromochloropropane (DBCP)	0.0002
Dichloroacetic acid	0.06
Dichlorobenzene p-	0.075
Dichlorobenzene o-	0.6
Dichlorobenzene m-	0.6
Dichloroethane (1, 2)	0.005
Dichloroethylene (1, 1-)	0.007
Dichloroethylene (cis-1, 2-)	0.07
Dichloroethylene (trans-1, 2-)	0.1
Dichloromethane	0.005
Dichloropropane (1, 2-)	0.005
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylbenzene	0.7
Ethylene dibromide (EDB)	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001

Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Monochloroacetic acid <sup>2</sup>	0.06
Monochlorobenzene	0.1
Oxamyl (Vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls	0.0005
Simazine	0.004
Styrene	0.1
2, 3, 7, 8-TCDD (Dioxin)	0.00000003
Tetrachlorethylene	0.005
Toluene	1.0
Toxaphene	0.003
2, 4, 5-TP (Silvex)	0.05
Trichloroacetic acid <sup>2</sup>	0.06
Trichlorobenzene (1, 2, 4-)	0.07
Trichloroethane (1, 1, 1-)	0.2
Trichloroethane (1, 1, 2-)	0.005
Trichloroethylene	0.005
Vinyl Chloride	0.002
Xylenes (Total)	10

### Inorganic Compounds

<u>Constituent</u>	<u>Limit (mg/L)</u> (except where noted)
Arsenic	0.01
Asbestos	7 MFL <sup>3</sup>
Barium	2.0
Beryllium	0.004
Bromate	0.01
Cadmium	0.005
Chloramine	4.0
Chlorine	4.0
Chlorine dioxide	0.8
Chlorite	1.0
Chromium (Total)	0.1
Copper	1.3
Cyanide	0.2
Fluoride	4.0
Lead	0.015
Mercury (Inorganic)	0.002

Nitrate (as N)	10
Nitrite (as N)	1.0
Total Nitrate and Nitrite (both as N)	10
Selenium	0.05
Thallium	0.002

**Radionuclides**

Beta particle and photon activity	4 mrem <sup>4</sup>
Gross alpha particle activity	15 pCi/L <sup>5</sup>
Combined Radium 226 and 228	5 pCi/L
<del>Radon</del>	<del>300 pCi/L</del>
Uranium	30 µg/L <sup>6</sup>

- 1 – The total of the trihalomethanes (THM) is 0.08 mg/L
- 2 – The total of the haloacetic acids is 0.06 mg/L
- 3 – MFL = million fibers per liter
- 4 – mrem = millirem (rem = roentgen – equivalent – man)
- 5 – pCi = picocurie
- 6 – µg/L = microgram per liter