

1 15A NCAC 02L .0202 is proposed for amendment as follows:

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3 **15A NCAC 02L .0202 GROUNDWATER QUALITY STANDARDS**

4 (a) The groundwater quality standards for the protection of the groundwaters of the state are those specified in this
5 Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land or
6 waters of the state, which may be tolerated without creating a threat to human health or which would otherwise render
7 the groundwater unsuitable for its intended best usage.

8 (b) The groundwater quality standards for contaminants specified in Paragraphs (h) and (i) of this Rule are as listed,
9 except that:

10 (1) Where the standard for a substance is less than the practical quantitation limit, the detection of that
11 substance at or above the practical quantitation limit constitutes a violation of the standard.

12 (2) Where two or more substances exist in combination, the Director shall consider the effects of
13 chemical interactions as determined by the Division of Public Health and may establish maximum
14 concentrations at values less than those established in accordance with Paragraphs (c), (h), or (i) of
15 this Rule. In the absence of information to the contrary, in accordance with Paragraph (d) of this
16 Rule, the carcinogenic risks associated with carcinogens present shall be considered additive and
17 the toxic effects associated with non-carcinogens present shall also be considered additive.

18 (3) Where naturally occurring substances exceed the established standard, the standard shall be the
19 naturally occurring concentration as determined by the Director.

20 (4) Where the groundwater standard for a substance is greater than the Maximum Contaminant Level
21 (MCL), the Director shall apply the MCL as the groundwater standard at any private drinking water
22 well or public water system well that may be impacted.

23 (c) Except for tracers used in concentrations which have been determined by the Division of Public Health to be
24 protective of human health, and the use of which has been permitted by the Division, substances which are not
25 naturally occurring and for which no standard is specified shall not be permitted in concentrations at or above the
26 practical quantitation limit in Class GA or Class GSA groundwaters. Any person may petition the Director of the
27 Division of Water Resources to establish an ~~interim maximum allowable concentration~~ Interim Maximum Allowable
28 Concentration (IMAC) for a substance for which a standard has not been established under this Rule. The petitioner
29 shall submit relevant toxicological and epidemiological data, study results, and calculations necessary to establish a
30 standard in accordance with ~~Paragraph~~ Paragraphs (d) and (e) of this Rule. ~~Within three months after the establishment~~
31 ~~of an interim maximum allowable concentration for a substance by the Director, the Director shall initiate action to~~
32 ~~consider adoption of a standard for that substance.~~ If the information submitted is not in accordance with Paragraphs
33 (d) and (e) of this Rule, the Director of the Division of Water Resources shall request additional information from the
34 petitioner. If the petitioner does not provide the additional information necessary to be in accordance with Paragraphs
35 (d) and (e) of this Rule, the Director of the Division of Water Resources shall deny the petition. At least 30 days prior
36 to establishing an IMAC for any substance, the Division of Water Resources shall provide public notice that an IMAC
37 has been requested. The public notice shall include the petition requesting the establishment of the IMAC for a

1 substance, the level of the proposed IMAC, and the basis upon which the Division of Water Resources has relied in
2 development of the proposed IMAC. This notice shall be published in the North Carolina Register and posted on the
3 Division of Water Resources's website: [7 \(d\) Except as provided in Paragraph \(f\) of this Rule, groundwater quality standards for substances in Class GA and
8 Class GSA groundwaters are established as the least of:](https://deq.nc.gov/about/divisions/water-resources/water-</u>
4 <u>planning/classification-standards/groundwater-imacs. If the Director of the Division of Water Resources establishes</u>
5 <u>an IMAC, the IMAC shall be posted on the Division of Water Resources's website and the Commission shall be</u>
6 <u>notified in writing within 30 calendar days that a new IMAC has been established.</u></p></div><div data-bbox=)

- 9 (1) Systemic threshold concentration calculated as follows: [Reference Dose (mg/kg/day) x 70 kg (adult
10 body weight) x Relative Source Contribution (~~10~~0.10 for inorganics; ~~200~~20 for organics)] / [2
11 liters/day (avg. water consumption)];
- 12 (2) Concentration which corresponds to an incremental lifetime cancer risk of 1×10^{-6} ;
- 13 (3) Taste threshold limit value;
- 14 (4) Odor threshold limit value;
- 15 (5) Maximum contaminant level; or
- 16 (6) National secondary drinking water standard.

17 (e) The following references, in order of preference, shall be used in establishing concentrations of substances which
18 correspond to levels described in Paragraph (d) of this Rule.

- 19 (1) Integrated Risk Information System (U.S. EPA).
- 20 (2) Health Advisories (U.S. EPA Office of Drinking Water).
- 21 (3) Other health risk assessment data published by the U.S. EPA.
- 22 (4) Other relevant, published health risk assessment data, and scientifically valid peer-reviewed
23 published toxicological data.

24 (f) The Commission may establish groundwater standards less stringent than existing maximum contaminant levels
25 or national secondary drinking water standards if it finds, after public notice and opportunity for hearing, that:

- 26 (1) more recent data published in the EPA health references listed in Paragraph (e) of this Rule results
27 in a standard which is protective of public health, taste threshold, or odor threshold;
- 28 (2) the standard will not endanger the public health and safety, including health and environmental
29 effects from exposure to groundwater contaminants; and
- 30 (3) compliance with a standard based on the maximum contaminant level or national secondary drinking
31 water standard would produce serious hardship without equal or greater public benefit.

32 (g) Groundwater quality standards specified in Paragraphs (h) and (i) of this Rule and ~~interim maximum allowable~~
33 ~~concentrations~~IMACs established pursuant to Paragraph (c) of this Rule shall be reviewed by the ~~Director~~Division of
34 Water Resources on a triennial ~~basis~~basis and reported to the Commission. The Director of the Division of Water
35 Resources shall consider the following actions during the review of an established IMAC:

- 36 (1) recommend codifying the IMAC as a groundwater quality standard under this Rule;
- 37 (2) update the IMAC value based on data published or rescinded subsequent to the previous review;

1 (3) remove the IMAC based on data published or rescinded subsequent to the previous review; or

2 (4) retain the IMAC at the current value;

3 Any IMAC recommended under Subparagraph (g)(1) of this Rule that the Commission does not codify shall remain
4 an established IMAC and be reviewed during the next triennial review. ~~Appropriate modifications~~ Modifications to
5 established standards shall be ~~made~~ made, through rulemaking, in accordance with the ~~procedure~~ procedures prescribed
6 in ~~Paragraph~~ Paragraphs (d) and (e) of this Rule where modifications are considered appropriate based on data
7 published subsequent to the previous review.

8 (h) Class GA Standards. Unless otherwise indicated, the standard refers to the total concentration in micrograms per
9 liter (µg/L) of any constituent in a dissolved, colloidal or particulate form which is mobile in groundwater. This does
10 not apply to sediment or other particulate matter which is preserved in a groundwater sample as a result of well
11 construction or sampling procedures. The Class GA standards are:

12 (1) ~~Acenaphthene: 80;~~

13 (2) ~~Acenaphthylene: 200;~~

14 (3) ~~Acetone: 6 mg/L;~~

15 (4) ~~Acrylamide: 0.008;~~

16 (5) ~~Anthracene: 2 mg/L;~~

17 (6) ~~Arsenic: 10;~~

18 (7) ~~Atrazine and chlorotriazine metabolites: 3;~~

19 (8) ~~Barium: 700;~~

20 (9) ~~Benzene: 1;~~

21 (10) ~~Benzo(a)anthracene (benz(a)anthracene): 0.05;~~

22 (11) ~~Benzo(b)fluoranthene: 0.05;~~

23 (12) ~~Benzo(k)fluoranthene: 0.5;~~

24 (13) ~~Benzoic acid: 30 mg/L;~~

25 (14) ~~Benzo(g,h,i)perylene: 200;~~

26 (15) ~~Benzo(a)pyrene: 0.005;~~

27 (16) ~~Bis(chloroethyl)ether: 0.03;~~

28 (17) ~~Bis(2-ethylhexyl) phthalate (di(2-ethylhexyl) phthalate): 3;~~

29 (18) ~~Boron: 700;~~

30 (19) ~~Bromodichloromethane: 0.6;~~

31 (20) ~~Bromoform (tribromomethane): 4;~~

32 (21) ~~n-Butylbenzene: 70;~~

33 (22) ~~sec-Butylbenzene: 70;~~

34 (23) ~~tert-Butylbenzene: 70;~~

35 (24) ~~Butylbenzyl phthalate: 1 mg/L;~~

36 (25) ~~Cadmium: 2;~~

37 (26) ~~Caprolactam: 4 mg/L;~~

- 1 ~~(27) — Carbofuran: 40;~~
- 2 ~~(28) — Carbon disulfide: 700;~~
- 3 ~~(29) — Carbon tetrachloride: 0.3;~~
- 4 ~~(30) — Chlordane: 0.1;~~
- 5 ~~(31) — Chloride: 250 mg/L;~~
- 6 ~~(32) — Chlorobenzene: 50;~~
- 7 ~~(33) — Chloroethane: 3,000;~~
- 8 ~~(34) — Chloroform (trichloromethane): 70;~~
- 9 ~~(35) — Chloromethane (methyl chloride): 3;~~
- 10 ~~(36) — 2-Chlorophenol: 0.4;~~
- 11 ~~(37) — 2-Chlorotoluene (o-chlorotoluene): 100;~~
- 12 ~~(38) — Chromium: 10;~~
- 13 ~~(39) — Chrysene: 5;~~
- 14 ~~(40) — Coliform organisms (total): 1 per 100 mL;~~
- 15 ~~(41) — Color: 15 color units;~~
- 16 ~~(42) — Copper: 1 mg/L;~~
- 17 ~~(43) — Cyanide (free cyanide): 70;~~
- 18 ~~(44) — 2,4-D (2,4-dichlorophenoxy acetic acid): 70;~~
- 19 ~~(45) — DDD: 0.1;~~
- 20 ~~(46) — DDT: 0.1;~~
- 21 ~~(47) — Dibenz(a,h)anthracene: 0.005;~~
- 22 ~~(48) — Dibromochloromethane: 0.4;~~
- 23 ~~(49) — 1,2-Dibromo-3-chloropropane: 0.04;~~
- 24 ~~(50) — Dibutyl (or di-n-butyl)-phthalate: 700;~~
- 25 ~~(51) — 1,2-Dichlorobenzene (orthodichlorobenzene): 20;~~
- 26 ~~(52) — 1,3-Dichlorobenzene (metadichlorobenzene): 200;~~
- 27 ~~(53) — 1,4-Dichlorobenzene (paradichlorobenzene): 6;~~
- 28 ~~(54) — Dichlorodifluoromethane (Freon 12; Halon): 1 mg/L;~~
- 29 ~~(55) — 1,1-Dichloroethane: 6;~~
- 30 ~~(56) — 1,2-Dichloroethane (ethylene dichloride): 0.4;~~
- 31 ~~(57) — 1,2-Dichloroethene (cis): 70;~~
- 32 ~~(58) — 1,2-Dichloroethene (trans): 100;~~
- 33 ~~(59) — 1,1-Dichloroethylene (vinylidene chloride): 350;~~
- 34 ~~(60) — 1,2-Dichloropropane: 0.6;~~
- 35 ~~(61) — 1,3-Dichloropropene (cis and trans isomers): 0.4;~~
- 36 ~~(62) — Dieldrin: 0.002;~~
- 37 ~~(63) — Diethylphthalate: 6 mg/L;~~

- 1 (64) — 2,4 Dimethylphenol (m-xyleneol): 100;
- 2 (65) — Di-n-octyl phthalate: 100;
- 3 (66) — 1,4 Dioxane (p-dioxane): 3;
- 4 (67) — Dioxin (2,3,7,8-TCDD): 0.0002 ng/L;
- 5 (68) — 1,1-Diphenyl (1,1, biphenyl): 400;
- 6 (69) — Dissolved solids (total): 500 mg/L;
- 7 (70) — Disulfoton: 0.3;
- 8 (71) — Diundecyl phthalate (Santocizer 711): 100;
- 9 (72) — Endosulfan: 40;
- 10 (73) — Endrin, total (includes endrin, endrin-aldehyde and endrin-ketone): 2;
- 11 (74) — Epichlorohydrin: 4;
- 12 (75) — Ethyl acetate: 3 mg/L;
- 13 (76) — Ethylbenzene: 600;
- 14 (77) — Ethylene dibromide (1,2-dibromoethane): 0.02;
- 15 (78) — Ethylene glycol: 10 mg/L;
- 16 (79) — Fluoranthene: 300;
- 17 (80) — Fluorene: 300;
- 18 (81) — Fluoride: 2 mg/L;
- 19 (82) — Foaming agents: 500;
- 20 (83) — Formaldehyde: 600;
- 21 (84) — Gross alpha (adjusted) particle activity (excluding radium-226 and uranium): 15 pCi/L;
- 22 (85) — Heptachlor: 0.008;
- 23 (86) — Heptachlor epoxide: 0.004;
- 24 (87) — Heptane: 400;
- 25 (88) — Hexachlorobenzene (perchlorobenzene): 0.02;
- 26 (89) — Hexachlorobutadiene: 0.4;
- 27 (90) — Hexachlorocyclohexane isomers (technical grade): 0.02;
- 28 (91) — n-Hexane: 400;
- 29 (92) — Indeno(1,2,3-cd)pyrene: 0.05;
- 30 (93) — Iron: 300;
- 31 (94) — Isophorone: 40;
- 32 (95) — Isopropylbenzene: 70;
- 33 (96) — Isopropyl ether: 70;
- 34 (97) — Lead: 15;
- 35 (98) — Lindane (gamma-hexachlorocyclohexane): 0.03;
- 36 (99) — Manganese: 50;
- 37 (100) — Mercury: 1;

- 1 ~~(101) — Methanol: 4 mg/L;~~
- 2 ~~(102) — Methoxychlor: 40;~~
- 3 ~~(103) — Methylene chloride (dichloromethane): 5;~~
- 4 ~~(104) — Methyl ethyl ketone (2 butanone): 4 mg/L;~~
- 5 ~~(105) — 2 Methyl naphthalene: 30;~~
- 6 ~~(106) — 3 Methylphenol (m-cresol): 400;~~
- 7 ~~(107) — 4 Methylphenol (p-cresol): 40;~~
- 8 ~~(108) — Methyl tert-butyl ether (MTBE): 20;~~
- 9 ~~(109) — Naphthalene: 6;~~
- 10 ~~(110) — Nickel: 100;~~
- 11 ~~(111) — Nitrate (as N): 10 mg/L;~~
- 12 ~~(112) — Nitrite (as N): 1 mg/L;~~
- 13 ~~(113) — N-nitrosodimethylamine: 0.0007;~~
- 14 ~~(114) — Oxamyl: 200;~~
- 15 ~~(115) — Pentachlorophenol: 0.3;~~
- 16 ~~(116) — Petroleum aliphatic carbon fraction class (C5–C8): 400;~~
- 17 ~~(117) — Petroleum aliphatic carbon fraction class (C9–C18): 700;~~
- 18 ~~(118) — Petroleum aliphatic carbon fraction class (C19–C36): 10 mg/L;~~
- 19 ~~(119) — Petroleum aromatics carbon fraction class (C9–C22): 200;~~
- 20 ~~(120) — pH: 6.5–8.5;~~
- 21 ~~(121) — Phenanthrene: 200;~~
- 22 ~~(122) — Phenol: 30;~~
- 23 ~~(123) — Phorate: 1;~~
- 24 ~~(124) — n-Propylbenzene: 70;~~
- 25 ~~(125) — Pyrene: 200;~~
- 26 ~~(126) — Selenium: 20;~~
- 27 ~~(127) — Silver: 20;~~
- 28 ~~(128) — Simazine: 4;~~
- 29 ~~(129) — Styrene: 70;~~
- 30 ~~(130) — Sulfate: 250 mg/L;~~
- 31 ~~(131) — 1,1,2,2-Tetrachloroethane: 0.2;~~
- 32 ~~(132) — Tetrachloroethylene (perchloroethylene; PCE): 0.7;~~
- 33 ~~(133) — 2,3,4,6-Tetrachlorophenol: 200;~~
- 34 ~~(134) — Toluene: 600;~~
- 35 ~~(135) — Toxaphene: 0.03;~~
- 36 ~~(136) — 2,4,5-TP (Silvex): 50;~~
- 37 ~~(137) — 1,2,4-Trichlorobenzene: 70;~~

- 1 (138) ~~1,1,1 Trichloroethane: 200;~~
2 (139) ~~Trichloroethylene (TCE): 3;~~
3 (140) ~~Trichlorofluoromethane: 2 mg/L;~~
4 (141) ~~1,2,3 Trichloropropane: 0.005;~~
5 (142) ~~1,2,4 Trimethylbenzene: 400;~~
6 (143) ~~1,3,5 Trimethylbenzene: 400;~~
7 (144) ~~1,1,2 Trichloro 1,2,2 trifluoroethane (CFC 113): 200 mg/L;~~
8 (145) ~~Vinyl chloride: 0.03;~~
9 (146) ~~Xylenes (o , m , and p): 500; and~~
10 (147) ~~Zinc: 1 mg/L.~~
11

<u>Substance</u>	<u>Chemical Abstracts Service (CAS) Registry Number</u>	<u>Standard (µg/L)</u>
<u>Acenaphthene</u>	<u>83-32-9</u>	<u>80</u>
<u>Acenaphthylene</u>	<u>208-96-8</u>	<u>200</u>
<u>Acetic acid</u>	<u>64-19-7</u>	<u>5,000</u>
<u>Acetochlor</u>	<u>34256-82-1</u>	<u>100</u>
<u>Acetochlor ESA</u>	<u>187022-11-3</u>	<u>500</u>
<u>Acetochlor OXA</u>	<u>184992-44-4</u>	<u>500</u>
<u>Acetone</u>	<u>67-64-1</u>	<u>6,000</u>
<u>Acetophenone</u>	<u>98-86-2</u>	<u>700</u>
<u>Acrolein</u>	<u>107-02-8</u>	<u>4</u>
<u>Acrylamide</u>	<u>79-06-1</u>	<u>0.008</u>
<u>Alachlor</u>	<u>15972-60-8</u>	<u>2</u>
<u>Aldrin</u>	<u>309-00-2</u>	<u>0.002</u>
<u>Anthracene</u>	<u>120-12-7</u>	<u>2,000</u>
<u>Antimony</u>	<u>7440-36-0</u>	<u>1</u>
<u>Arsenic</u>	<u>7440-38-2</u>	<u>10</u>
<u>Atrazine and chlorotriazine metabolites</u>	<u>1912-24-9</u>	<u>3</u>
<u>Barium</u>	<u>7440-39-3</u>	<u>700</u>
<u>Benzene</u>	<u>71-43-2</u>	<u>1</u>
<u>Benzo(a)anthracene</u>	<u>56-55-3</u>	<u>0.05</u>

<u>Benzo(a)pyrene</u>	<u>50-32-8</u>	<u>0.005</u>
<u>Benzo(b)fluoranthene</u>	<u>205-99-2</u>	<u>0.05</u>
<u>Benzo(g,h,i)perylene</u>	<u>191-24-2</u>	<u>200</u>
<u>Benzo(k)fluoranthene</u>	<u>207-08-9</u>	<u>0.5</u>
<u>Benzoic acid</u>	<u>65-85-0</u>	<u>30,000</u>
<u>Benzyl alcohol</u>	<u>100-51-6</u>	<u>700</u>
<u>Beryllium</u>	<u>7440-41-7</u>	<u>4</u>
<u>Bis(chloroethyl)ether</u>	<u>111-44-4</u>	<u>0.03</u>
<u>Bis(2-ethylhexyl) phthalate</u>	<u>117-81-7</u>	<u>3</u>
<u>Boron</u>	<u>7440-42-8</u>	<u>700</u>
<u>Bromodichloromethane</u>	<u>75-27-4</u>	<u>0.6</u>
<u>Bromoform</u>	<u>75-25-2</u>	<u>4</u>
<u>Bromomethane</u>	<u>74-839-9</u>	<u>10</u>
<u>n-Butanol</u>	<u>71-36-3</u>	<u>590</u>
<u>sec-Butanol</u>	<u>78-92-2</u>	<u>10,000</u>
<u>n-Butylbenzene</u>	<u>104-51-8</u>	<u>70</u>
<u>sec-Butylbenzene</u>	<u>135-98-8</u>	<u>70</u>
<u>tert-Butylbenzene</u>	<u>98-06-6</u>	<u>70</u>
<u>Butylbenzyl phthalate</u>	<u>85-68-7</u>	<u>1,000</u>
<u>Cadmium</u>	<u>7440-43-9</u>	<u>2</u>
<u>Caprolactam</u>	<u>105-60-2</u>	<u>4,000</u>
<u>Carbofuran</u>	<u>1563-66-2</u>	<u>40</u>
<u>Carbon disulfide</u>	<u>75-15-0</u>	<u>700</u>
<u>Carbon tetrachloride</u>	<u>56-23-5</u>	<u>0.3</u>
<u>Chlordane</u>	<u>12789-03-6</u>	<u>0.1</u>
<u>Chloride</u>	<u>16887-00-6</u>	<u>250,000</u>
<u>Chlorobenzene</u>	<u>108-90-7</u>	<u>50</u>
<u>Chloroethane</u>	<u>75-00-3</u>	<u>3,000</u>
<u>Chloroform</u>	<u>67-66-3</u>	<u>70</u>
<u>Chloromethane</u>	<u>74-87-3</u>	<u>3</u>

<u>2-Chlorophenol</u>	<u>95-57-8</u>	<u>0.4</u>
<u>2-Chlorotoluene</u>	<u>95-49-8</u>	<u>100</u>
<u>4-Chlorotoluene</u>	<u>106-43-4</u>	<u>24</u>
<u>Chromium</u>	<u>7440-47-3</u>	<u>10</u>
<u>Chrysene</u>	<u>218-01-9</u>	<u>5</u>
<u>Cobalt</u>	<u>7440-48-4</u>	<u>1</u>
<u>Coliform organisms (total)</u>	<u>No CAS Registry Number</u>	<u>1 per 100 mL</u>
<u>Color</u>	<u>No CAS Registry Number</u>	<u>15 color units</u>
<u>Copper</u>	<u>7440-50-8</u>	<u>1,000</u>
<u>Cyanide (free cyanide)</u>	<u>57-12-5</u>	<u>70</u>
<u>2,4-D (2,4-dichlorophenoxy acetic acid)</u>	<u>94-75-7</u>	<u>70</u>
<u>Dalapon</u>	<u>75-99-0</u>	<u>200</u>
<u>DDD</u>	<u>72-54-8</u>	<u>0.1</u>
<u>DDE</u>	<u>72-55-9</u>	<u>0.1</u>
<u>DDT</u>	<u>50-29-3</u>	<u>0.1</u>
<u>Dibenz(a,h)anthracene</u>	<u>53-70-3</u>	<u>0.005</u>
<u>1,4-Dibromobenzene</u>	<u>106-37-06</u>	<u>70</u>
<u>Dibromochloromethane</u>	<u>124-48-1</u>	<u>0.4</u>
<u>1,2-Dibromo-3-chloropropane</u>	<u>96-12-8</u>	<u>0.04</u>
<u>Dibutyl phthalate</u>	<u>84-74-2</u>	<u>700</u>
<u>Dichloroacetic acid</u>	<u>79-43-6</u>	<u>0.7</u>
<u>1,2-Dichlorobenzene</u>	<u>95-50-1</u>	<u>20</u>
<u>1,3-Dichlorobenzene</u>	<u>541-73-1</u>	<u>200</u>
<u>1,4-Dichlorobenzene</u>	<u>106-46-7</u>	<u>6</u>
<u>Dichlorodifluoromethane</u>	<u>75-71-8</u>	<u>1,000</u>
<u>1,1-Dichloroethane</u>	<u>75-34-3</u>	<u>6</u>
<u>1,2-Dichloroethane</u>	<u>107-06-2</u>	<u>0.4</u>
<u>1,2-Dichloroethene (cis)</u>	<u>156-59-2</u>	<u>70</u>
<u>1,2-Dichloroethene (trans)</u>	<u>156-60-5</u>	<u>100</u>
<u>1,1-Dichloroethylene</u>	<u>75-35-4</u>	<u>350</u>

<u>2,4-Dichlorophenol</u>	<u>120-83-2</u>	<u>0.98</u>
<u>1,2-Dichloropropane</u>	<u>78-87-5</u>	<u>0.6</u>
<u>1,3-Dichloropropene (cis and trans isomers)</u>	<u>542-75-6</u>	<u>0.4</u>
<u>Dieldrin</u>	<u>60-57-1</u>	<u>0.002</u>
<u>Diethylphthalate</u>	<u>84-66-2</u>	<u>6,000</u>
<u>2,4-Dimethylphenol</u>	<u>105-67-9</u>	<u>100</u>
<u>2,4-Dinitrotoluene</u>	<u>121-14-2</u>	<u>0.05</u>
<u>2,6-Dinitrotoluene</u>	<u>606-20-2</u>	<u>0.05</u>
<u>Di-n-octyl phthalate</u>	<u>117-84-0</u>	<u>100</u>
<u>Dinoseb</u>	<u>88-85-7</u>	<u>7</u>
<u>1,4-Dioxane</u>	<u>123-91-1</u>	<u>3</u>
<u>Dioxin (2,3,7,8-TCDD)</u>	<u>1746-01-6</u>	<u>0.0002 ng/L</u>
<u>1,1-Diphenyl</u>	<u>92-52-4</u>	<u>400</u>
<u>Diphenyl ether</u>	<u>101-84-8</u>	<u>180</u>
<u>Diquat</u>	<u>85-00-7</u>	<u>20</u>
<u>Dissolved solids (total)</u>	<u>No CAS Registry Number</u>	<u>500,000</u>
<u>Disulfoton</u>	<u>298-04-4</u>	<u>0.3</u>
<u>Diundecyl phthalate (Santicizer 711)</u>	<u>3648-20-2</u>	<u>100</u>
<u>Endosulfan</u>	<u>115-29-7</u>	<u>40</u>
<u>Endosulfan sulfate</u>	<u>115-29-7</u>	<u>40</u>
<u>Endothall</u>	<u>145-73-3</u>	<u>100</u>
<u>Endrin, total (includes endrin, endrin aldehyde, and endrin ketone)</u>	<u>72-20-8</u>	<u>2</u>
<u>Epichlorohydrin</u>	<u>106-89-8</u>	<u>4</u>
<u>Ethyl acetate</u>	<u>141-78-6</u>	<u>3,000</u>
<u>Ethylbenzene</u>	<u>100-41-4</u>	<u>600</u>
<u>Ethylene dibromide</u>	<u>106-93-4</u>	<u>0.02</u>
<u>Ethylene glycol</u>	<u>107-21-1</u>	<u>10,000</u>
<u>Fluoranthene</u>	<u>206-44-0</u>	<u>300</u>
<u>Fluorene</u>	<u>86-73-7</u>	<u>300</u>
<u>Fluoride</u>	<u>16984-48-8</u>	<u>2,000</u>

<u>Foaming agents</u>	<u>No CAS Registry Number</u>	<u>500</u>
<u>Formaldehyde</u>	<u>50-00-0</u>	<u>600</u>
<u>Gross alpha (adjusted) particle activity (excludes radium-226 and uranium)</u>	<u>12587-46-1</u>	<u>15 pCi/L</u>
<u>Heptachlor</u>	<u>76-44-8</u>	<u>0.008</u>
<u>Heptachlor epoxide</u>	<u>1024-57-3</u>	<u>0.004</u>
<u>Heptane</u>	<u>142-82-5</u>	<u>400</u>
<u>Hexachlorobenzene</u>	<u>118-74-1</u>	<u>0.02</u>
<u>Hexachlorobutadiene</u>	<u>87-68-3</u>	<u>0.4</u>
<u>Hexachlorocyclohexane isomers (technical grade)</u>	<u>608-73-1</u>	<u>0.02</u>
<u>alpha-Hexachlorocyclohexane</u>	<u>319-84-6</u>	<u>0.006</u>
<u>beta-Hexachlorocyclohexane</u>	<u>319-85-7</u>	<u>0.02</u>
<u>gamma-Hexachlorocyclohexane (Lindane)</u>	<u>58-89-9</u>	<u>0.03</u>
<u>n-Hexane</u>	<u>110-54-3</u>	<u>400</u>
<u>Indeno(1,2,3-cd)pyrene</u>	<u>193-39-5</u>	<u>0.05</u>
<u>Iron</u>	<u>7439-89-6</u>	<u>300</u>
<u>Isophorone</u>	<u>78-59-1</u>	<u>40</u>
<u>Isopropyl ether</u>	<u>108-20-3</u>	<u>70</u>
<u>Isopropylbenzene</u>	<u>98-82-8</u>	<u>70</u>
<u>4-Isopropyltoluene</u>	<u>99-87-6</u>	<u>25</u>
<u>Lead</u>	<u>7439-92-1</u>	<u>15</u>
<u>Manganese</u>	<u>7439-96-5</u>	<u>50</u>
<u>Mercury</u>	<u>7439-97-6</u>	<u>1</u>
<u>Methanol</u>	<u>67-56-1</u>	<u>4,000</u>
<u>Methoxychlor</u>	<u>72-43-5</u>	<u>40</u>
<u>Methylene chloride</u>	<u>75-09-2</u>	<u>5</u>
<u>Methyl butyl ketone</u>	<u>591-78-6</u>	<u>40</u>
<u>Methyl ethyl ketone</u>	<u>78-93-3</u>	<u>4,000</u>
<u>Methyl isobutyl ketone</u>	<u>108-10-1</u>	<u>100</u>
<u>Methyl methacrylate</u>	<u>80-62-6</u>	<u>25</u>
<u>1-Methylnaphthalene</u>	<u>90-12-0</u>	<u>1</u>

<u>2-Methylnaphthalene</u>	<u>91-57-6</u>	<u>30</u>
<u>2-Methylphenol</u>	<u>95-48-7</u>	<u>400</u>
<u>3-Methylphenol</u>	<u>108-39-4</u>	<u>400</u>
<u>4-Methylphenol</u>	<u>106-44-5</u>	<u>40</u>
<u>Methyl tert-butyl ether (MTBE)</u>	<u>1634-04-4</u>	<u>20</u>
<u>Naphthalene</u>	<u>91-20-3</u>	<u>6</u>
<u>Nickel</u>	<u>7440-02-0</u>	<u>100</u>
<u>Nitrate (as N)</u>	<u>14797-55-8</u>	<u>10,000</u>
<u>Nitrite (as N)</u>	<u>14797-65-0</u>	<u>1,000</u>
<u>N-nitrosodimethylamine</u>	<u>62-75-9</u>	<u>0.0007</u>
<u>Oxamyl</u>	<u>23135-22-0</u>	<u>200</u>
<u>Pentachlorophenol</u>	<u>608-93-5</u>	<u>0.3</u>
<u>Perfluorooctane sulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA), total</u>	<u>1763-23-1 (PFOS); 335-67-1 (PFOA)</u>	<u>0.07</u>
<u>Petroleum aliphatic carbon fraction class (C5 – C8)</u>	<u>No CAS Registry Number</u>	<u>400</u>
<u>Petroleum aliphatic carbon fraction class (C9 – C18)</u>	<u>No CAS Registry Number</u>	<u>700</u>
<u>Petroleum aliphatic carbon fraction class (C19 – C36)</u>	<u>No CAS Registry Number</u>	<u>10,000</u>
<u>Petroleum aromatics carbon fraction class (C9 – C22)</u>	<u>No CAS Registry Number</u>	<u>200</u>
<u>pH</u>	<u>No CAS Registry Number</u>	<u>6.5 - 8.5 (no unit)</u>
<u>Phenanthrene</u>	<u>85-01-8</u>	<u>200</u>
<u>Phenol</u>	<u>108-95-2</u>	<u>30</u>
<u>Phorate</u>	<u>298-02-2</u>	<u>1</u>
<u>n-Propylbenzene</u>	<u>103-65-1</u>	<u>70</u>
<u>Propylene glycol</u>	<u>57-55-6</u>	<u>100,000</u>
<u>Pyrene</u>	<u>129-00-0</u>	<u>200</u>
<u>Selenium</u>	<u>7782-49-2</u>	<u>20</u>
<u>Silver</u>	<u>7440-22-4</u>	<u>20</u>
<u>Simazine</u>	<u>122-34-9</u>	<u>4</u>
<u>Strontium</u>	<u>7440-24-6</u>	<u>2,000</u>
<u>Styrene</u>	<u>100-42-5</u>	<u>70</u>
<u>Sulfate</u>	<u>14808-79-8</u>	<u>250,000</u>

<u>1,2,4,5-Tetrachlorobenzene</u>	<u>95-94-3</u>	<u>2</u>
<u>1,1,2,2-Tetrachloroethane</u>	<u>79-34-5</u>	<u>0.2</u>
<u>1,1,1,2-Tetrachloroethane</u>	<u>630-20-6</u>	<u>1</u>
<u>Tetrachloroethylene (PCE)</u>	<u>127-18-4</u>	<u>0.7</u>
<u>2,3,4,6-Tetrachlorophenol</u>	<u>58-90-2</u>	<u>200</u>
<u>Thallium</u>	<u>7440-28-0</u>	<u>2</u>
<u>Tin (inorganic forms)</u>	<u>7440-31-5</u>	<u>2,000</u>
<u>Toluene</u>	<u>108-88-3</u>	<u>600</u>
<u>Toxaphene</u>	<u>8001-35-2</u>	<u>0.03</u>
<u>2,4,5-TP (Silvex)</u>	<u>93-72-1</u>	<u>50</u>
<u>1,2,4-Trichlorobenzene</u>	<u>120-82-1</u>	<u>70</u>
<u>1,1,1-Trichloroethane</u>	<u>71-55-6</u>	<u>200</u>
<u>1,1,2-Trichloroethane</u>	<u>79-00-5</u>	<u>0.6</u>
<u>Trichloroethylene (TCE)</u>	<u>79-01-6</u>	<u>3</u>
<u>Trichlorofluoromethane</u>	<u>75-69-4</u>	<u>2,000</u>
<u>2,4,5-Trichlorophenol</u>	<u>95-95-4</u>	<u>63</u>
<u>2,4,6-Trichlorophenol</u>	<u>88-06-2</u>	<u>4</u>
<u>1,2,3-Trichloropropane</u>	<u>96-18-4</u>	<u>0.005</u>
<u>1,2,4-Trimethylbenzene</u>	<u>95-63-6</u>	<u>400</u>
<u>1,3,5-Trimethylbenzene</u>	<u>108-67-8</u>	<u>400</u>
<u>Vanadium</u>	<u>7440-62-2</u>	<u>7</u>
<u>1,1,2-Trichloro-1,2,2-trifluoroethane</u>	<u>76-13-1</u>	<u>200,000</u>
<u>Vinyl chloride</u>	<u>75-01-4</u>	<u>0.03</u>
<u>Xylenes</u>	<u>1330-20-7</u>	<u>500</u>
<u>Zinc</u>	<u>7440-66-6</u>	<u>1,000</u>

- 1
- 2 (i) Class GSA Standards. The standards for this class are the same as those for Class GA except as follows:
- 3 (1) chloride: allowable increase not to exceed 100 percent of the natural quality concentration; and
- 4 (2) dissolved solids (total): ~~1000 mg/L~~ 1,000,000 µg/L.
- 5 (j) Class GC Standards.
- 6 (1) The concentrations of substances that, at the time of classification, exceed the standards applicable
- 7 to Class GA or GSA groundwaters shall not be caused to increase, nor shall the concentrations of

1 other substances be caused to exceed the GA or GSA standards as a result of further disposal of
2 contaminants to or beneath the surface of the land within the boundary of the area classified GC.

3 (2) The concentrations of substances that, at the time of classification, exceed the standards applicable
4 to GA or GSA groundwaters shall not be caused to migrate as a result of activities within the
5 boundary of the GC classification, so as to violate the groundwater or surface water quality standards
6 in adjoining waters of a different class.

7 (3) Concentrations of specific substances, that exceed the established standard at the time of
8 classification, are listed in Section .0300 of this Subchapter.

9
10 *History Note: Authority G.S. 143-214.1; 143B-282(a)(2);*
11 *Eff. June 10, 1979;*
12 *Amended Eff. November 1, 1994; October 1, 1993; September 1, 1992; August 1, 1989;*
13 *Temporary Amendment Eff. June 30, 2002;*
14 *Amended Eff. August 1, 2002;*
15 *Temporary Amendment Expired February 9, 2003;*
16 *Amended Eff. April 1, 2013; January 1, 2010; April 1, 2005;*
17 *Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. March 6,*
18 *2018.*
19 *Amended Eff. July 1, 2021*