

1 15A NCAC 02L .0202 is amended as published in 35:14 NCR 1560 with changes as follows:

2
3 **15A NCAC 02L .0202 GROUNDWATER QUALITY STANDARDS**

4 (a) The groundwater quality standards for the protection of the groundwaters of the ~~state~~ State are those specified in
5 this Rule. They are the maximum allowable concentrations resulting from any discharge of contaminants to the land
6 or waters of the ~~state, State,~~ which may be tolerated without creating a threat to human health or which would otherwise
7 render 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. The
12 practical quantitation limit, defined in Rule .0102 of this Subchapter, is a scientific standard pursuant
13 to G.S. 150B-2(8a)(h).

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

21 (3) Where naturally occurring substances exceed the established standard, the standard shall be the
22 naturally occurring concentration as ~~determined~~ established by the ~~Director.~~ Director based upon
23 site-specific conditions.

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

27 (c) Except for ~~tracers used in concentrations which have been determined by the Division of Public Health to be~~
28 ~~protective of human health, and tracers,~~ the use of which has been permitted by the ~~Division,~~ Division per 15A NCAC
29 02C .0200, substances ~~which that~~ are not naturally occurring and for which no standard is specified under Paragraphs
30 (h) or (i) of this Rule shall not be permitted in concentrations at or above the practical quantitation limit in Class GA
31 or Class GSA groundwaters. Any person may ~~petition~~ request the Director of the Division of Water Resources ~~to~~
32 modify this requirement by establishing ~~establish~~ an ~~interim maximum allowable concentration~~ Interim Maximum
33 Allowable Concentration (IMAC) ~~for a substance for which a standard has not been established under this Rule, in~~
34 accordance with the specific guidelines listed below. In addition, any person may request the Director of the Division
35 of Water Resources to update or remove an existing IMAC in accordance with the specific guidelines below. The
36 ~~petitioner~~ requestor shall submit relevant toxicological and epidemiological data, study results, and calculations
37 necessary to establish a standard in accordance with ~~Paragraph~~ Paragraphs (d) and (e) of this Rule. ~~Within three months~~

1 after the establishment of an interim maximum allowable concentration for a substance by the Director, the Director
2 shall initiate action to consider adoption of a standard for that substance. The specific guidelines are as follows:

3 (1) The Division shall review the request to determine whether the information submitted is in
4 accordance with Paragraphs (d) and (e) of this Rule.

5 (2) If the information submitted is not in accordance with Paragraphs (d) and (e) of this Rule, the
6 Director of the Division of Water Resources shall request additional information from the
7 [petitioner.] requester. If the [petitioner] requester does not provide the additional information
8 necessary to be in accordance with Paragraphs (d) and (e) of this Rule, the Director of the Division
9 of Water Resources shall [deny]return the [petition.]request. [The Director shall provide an annual
10 update to the Commission on the status of IMAC requests.]

11 (3) If the information submitted is in accordance with Paragraphs (d) and (e) of this Rule, [At] at least
12 30 days prior to [establishing]establishing, updating, or removing an IMAC for any substance, the
13 Division of Water Resources shall provide public notice and opportunity for comment that an IMAC
14 has been [requested.] requested to be established, updated, or removed. The public notice shall
15 [include] include:

16 (A) the [petition requesting the establishment] request for the establishment, update,
17 or removal of the IMAC for a substance,

18 (B) the level of the proposed IMAC, which is calculated by the Division of Water
19 Resources in accordance with Paragraphs (d) and (e) of this Rule.

20 (C) if applicable the level of the existing IMAC, and

21 (D) the basis upon which the Division of Water Resources has relied in development
22 of the proposed [IMAC.] IMAC establishment, update, or removal.

23 This notice shall be [published in the North Carolina Register] emailed to interested parties and
24 posted on the Division of Water Resources's website: [https://deq.nc.gov/about/divisions/water-](https://deq.nc.gov/about/divisions/water-resources/water-planning/classification-standards/groundwater-imaacs)
25 resources/water-planning/classification-standards/groundwater-imaacs.

26 (4) If the Director of the Division of Water Resources finds the establishment, update or removal will
27 not degrade the quality of the groundwaters, will not likely cause or contribute to pollution of the
28 waters of the state, and will be protective of public health, then the Director shall establish, update
29 or remove the IMAC. If the request does not meet the requirements listed in this Subparagraph, the
30 Director of the Division of Water Resources shall return the request. The Director shall establish,
31 update, or remove the IMAC or return the request within 180 calendar days of receipt of a request
32 submitted in accordance with Paragraphs (d) and (e) of this Rule unless the requester agrees, in
33 writing, to a longer period. Failure by the Director to establish, update or remove an IMAC or return
34 the request within 180 days of receipt of a request submitted in accordance with Paragraphs (d) and
35 (e) of this Rule shall be considered a return of the request.

36 (5) If the Director of the Division of Water Resources establishes or updates an IMAC, the IMAC shall
37 be posted on the Division of Water Resource's website and the Commission shall be notified in

1 writing within 30 calendar days and at the next regularly scheduled Commission meeting that a new
 2 IMAC has been ~~established.~~ established or an existing IMAC has been updated or removed.

3 (6) (A) Within twelve months of establishing an IMAC pursuant to this Paragraph, the Director of
 4 the Division of Water Resources shall make a recommendation to the Commission
 5 whether:

6 (i) a new groundwater standard in place of the IMAC should be established pursuant
 7 to this Rule; or

8 (ii) the IMAC should expire.

9 (B) After a recommendation is presented by the Director under Subparagraph (c)(6)(A) of this
 10 Rule, the Commission shall decide whether rulemaking shall be initiated to adopt a new
 11 groundwater standard in place of the IMAC.

12 (C) If the Commission initiates rulemaking to adopt a new groundwater in place of the IMAC,
 13 then the IMAC shall remain in effect unless it expires under Subparagraph (c)(7) of this
 14 Rule.

15 (7) An IMAC shall expire upon the earliest of:

16 (A) the date the Commission declines to initiate rulemaking to adopt a new groundwater
 17 standard in place of the IMAC under Subparagraph (c)(6)(B) of this Rule;

18 (B) the effective date of a Rule adopted by the Commission establishing a new groundwater
 19 standard in place of the IMAC; or

20 (C) after initiating rulemaking pursuant to Subparagraph (c)(6)(C) of this Rule, the date the
 21 Commission declines to adopt a new groundwater standard in place of the IMAC.

22 (8) For any IMAC that expires prior to the adoption by the Commission of a new groundwater standard
 23 in place of the IMAC, any person may request an IMAC be established again under this Paragraph
 24 based on new information in accordance with Paragraphs (d) and (e) of this Rule that was not
 25 included in the original IMAC request to the Director or new site information that was not included
 26 in the original IMAC request to the Director.

27 (9) The Director of the Division of Water Resources shall provide an annual update to the Commission
 28 on the status of pending IMAC requests and any IMACs that have been established, updated or
 29 removed during the previous calendar year.

30 (d) Except as provided in Paragraph (f) of this Rule, groundwater quality standards for substances in Class GA and
 31 Class GSA groundwaters are established as the least of:

32 (1) Systemic threshold concentration calculated as follows: [Reference Dose (mg/kg/day) x 70 kg (adult
 33 body weight) x Relative Source Contribution (~~10~~0.10 for inorganics; ~~200~~20 for organics)] / [2
 34 liters/day (avg. water consumption)];

35 (2) Concentration which that corresponds to an incremental lifetime cancer risk of 1x10⁻⁶;

36 (3) Taste threshold limit value;

37 (4) Odor threshold limit value;

1 (5) Maximum contaminant level; or

2 (6) National secondary drinking water standard.

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

5 (1) Integrated Risk Information System (U.S. ~~EPA.~~ EPA);

6 (2) Health Advisories (U.S. EPA Office of Drinking ~~Water.~~ Water);

7 (3) Other health risk assessment data published by the U.S. ~~EPA.~~ EPA; or

8 (4) Other relevant, published health risk assessment data, and scientifically valid peer-reviewed
9 published toxicological data.

10 (f) The Commission may establish groundwater standards less stringent than existing maximum contaminant levels
11 or national secondary drinking water standards if it finds, after public notice and opportunity for hearing, hearing in
12 accordance with G.S. 150B, that:

13 (1) more recent data published in the EPA health references listed in Paragraph (e) of this Rule results
14 in a standard which that is protective of public health, taste threshold, or odor threshold;

15 (2) the standard will not endanger the public health and safety, including health and environmental
16 effects from exposure to groundwater contaminants; and

17 (3) compliance with a standard based on the maximum contaminant level or national secondary drinking
18 water standard would produce serious substantial hardship without equal or greater public benefit.

19 (g) Groundwater quality standards specified in Paragraphs (h) and (i) of this Rule and interim maximum allowable
20 concentrations IMACs established pursuant to Paragraph (e) of this Rule shall be reviewed by the ~~Director~~ Division
21 of Water Resources on a triennial basis to consider whether to recommend to the Commission that new or revised
22 groundwater quality standards be adopted in accordance with Paragraphs (d) and (e) of this Rule. on a triennial
23 [basis.] [basis and reported to the Commission. The Director of the Division of Water Resources shall [consider]] [take
24 any] [of the following actions during the review of an established IMAC:

25 (1) ~~recommend codifying the IMAC as a groundwater quality standard under this Rule;~~

26 (2) ~~update the IMAC value based on data published or rescinded subsequent to the previous review;~~

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

28 (4) ~~retain the IMAC at the current value;~~

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

34 (h) Class GA Standards. Unless otherwise indicated, the standard refers to the total concentration in micrograms per
35 liter ($\mu\text{g/L}$) of any constituent in a dissolved, ~~colloidal~~ colloidal, or particulate form which that is mobile in
36 groundwater. This does These standards do not apply to sediment or other particulate matter which that is preserved
37 in a groundwater sample as a result of well construction or sampling procedures. The Class GA standards are:

- 1 ~~(1) — Acenaphthene: 80;~~
- 2 ~~(2) — Acenaphthylene: 200;~~
- 3 ~~(3) — Acetone: 6 mg/L;~~
- 4 ~~(4) — Acrylamide: 0.008;~~
- 5 ~~(5) — Anthracene: 2 mg/L;~~
- 6 ~~(6) — Arsenic: 10;~~
- 7 ~~(7) — Atrazine and chlorotriazine metabolites: 3;~~
- 8 ~~(8) — Barium: 700;~~
- 9 ~~(9) — Benzene: 1;~~
- 10 ~~(10) — Benzo(a)anthracene (benz(a)anthracene): 0.05;~~
- 11 ~~(11) — Benzo(b)fluoranthene: 0.05;~~
- 12 ~~(12) — Benzo(k)fluoranthene: 0.5;~~
- 13 ~~(13) — Benzoic acid: 30 mg/L;~~
- 14 ~~(14) — Benzo(g,h,i,)perylene: 200;~~
- 15 ~~(15) — Benzo(a)pyrene: 0.005;~~
- 16 ~~(16) — Bis(chloroethyl)ether: 0.03;~~
- 17 ~~(17) — Bis(2-ethylhexyl) phthalate (di(2-ethylhexyl) phthalate): 3;~~
- 18 ~~(18) — Boron: 700;~~
- 19 ~~(19) — Bromodichloromethane: 0.6;~~
- 20 ~~(20) — Bromoform (tribromomethane): 4;~~
- 21 ~~(21) — n-Butylbenzene: 70;~~
- 22 ~~(22) — sec-Butylbenzene: 70;~~
- 23 ~~(23) — tert-Butylbenzene: 70;~~
- 24 ~~(24) — Butylbenzyl phthalate: 1 mg/L;~~
- 25 ~~(25) — Cadmium: 2;~~
- 26 ~~(26) — Caprolactam: 4 mg/L;~~
- 27 ~~(27) — Carbofuran: 40;~~
- 28 ~~(28) — Carbon disulfide: 700;~~
- 29 ~~(29) — Carbon tetrachloride: 0.3;~~
- 30 ~~(30) — Chlordane: 0.1;~~
- 31 ~~(31) — Chloride: 250 mg/L;~~
- 32 ~~(32) — Chlorobenzene: 50;~~
- 33 ~~(33) — Chloroethane: 3,000;~~
- 34 ~~(34) — Chloroform (trichloromethane): 70;~~
- 35 ~~(35) — Chloromethane (methyl chloride): 3;~~
- 36 ~~(36) — 2-Chlorophenol: 0.4;~~
- 37 ~~(37) — 2-Chlorotoluene (o-chlorotoluene): 100;~~

- 1 ~~(38) — Chromium: 10;~~
2 ~~(39) — Chrysene: 5;~~
3 ~~(40) — Coliform organisms (total): 1 per 100 mL;~~
4 ~~(41) — Color: 15 color units;~~
5 ~~(42) — Copper: 1 mg/L;~~
6 ~~(43) — Cyanide (free cyanide): 70;~~
7 ~~(44) — 2, 4 D (2,4 dichlorophenoxy acetic acid): 70;~~
8 ~~(45) — DDD: 0.1;~~
9 ~~(46) — DDT: 0.1;~~
10 ~~(47) — Dibenz(a,h)anthracene: 0.005;~~
11 ~~(48) — Dibromochloromethane: 0.4;~~
12 ~~(49) — 1,2 Dibromo 3 chloropropane: 0.04;~~
13 ~~(50) — Dibutyl (or di n butyl) phthalate: 700;~~
14 ~~(51) — 1,2 Dichlorobenzene (orthodichlorobenzene): 20;~~
15 ~~(52) — 1,3 Dichlorobenzene (metadichlorobenzene): 200;~~
16 ~~(53) — 1,4 Dichlorobenzene (paradichlorobenzene): 6;~~
17 ~~(54) — Dichlorodifluoromethane (Freon 12; Halon): 1 mg/L;~~
18 ~~(55) — 1,1 Dichloroethane: 6;~~
19 ~~(56) — 1,2 Dichloroethane (ethylene dichloride): 0.4;~~
20 ~~(57) — 1,2 Dichloroethene (cis): 70;~~
21 ~~(58) — 1,2 Dichloroethene (trans): 100;~~
22 ~~(59) — 1,1 Dichloroethylene (vinylidene chloride): 350;~~
23 ~~(60) — 1,2 Dichloropropane: 0.6;~~
24 ~~(61) — 1,3 Dichloropropene (cis and trans isomers): 0.4;~~
25 ~~(62) — Dieldrin: 0.002;~~
26 ~~(63) — Diethylphthalate: 6 mg/L;~~
27 ~~(64) — 2,4 Dimethylphenol (m xyleneol): 100;~~
28 ~~(65) — Di n octyl phthalate: 100;~~
29 ~~(66) — 1,4 Dioxane (p dioxane): 3;~~
30 ~~(67) — Dioxin (2,3,7,8 TCDD): 0.0002 ng/L;~~
31 ~~(68) — 1,1 Diphenyl (1,1, biphenyl): 400;~~
32 ~~(69) — Dissolved solids (total): 500 mg/L;~~
33 ~~(70) — Disulfoton: 0.3;~~
34 ~~(71) — Diundecyl phthalate (Santicizer 711): 100;~~
35 ~~(72) — Endosulfan: 40;~~
36 ~~(73) — Endrin, total (includes endrin, endrin aldehyde and endrin ketone): 2;~~
37 ~~(74) — Epichlorohydrin: 4;~~

- 1 ~~(75) — Ethyl acetate: 3 mg/L;~~
- 2 ~~(76) — Ethylbenzene: 600;~~
- 3 ~~(77) — Ethylene dibromide (1,2-dibromoethane): 0.02;~~
- 4 ~~(78) — Ethylene glycol: 10 mg/L;~~
- 5 ~~(79) — Fluoranthene: 300;~~
- 6 ~~(80) — Fluorene: 300;~~
- 7 ~~(81) — Fluoride: 2 mg/L;~~
- 8 ~~(82) — Foaming agents: 500;~~
- 9 ~~(83) — Formaldehyde: 600;~~
- 10 ~~(84) — Gross alpha (adjusted) particle activity (excluding radium-226 and uranium): 15 pCi/L;~~
- 11 ~~(85) — Heptachlor: 0.008;~~
- 12 ~~(86) — Heptachlor epoxide: 0.004;~~
- 13 ~~(87) — Heptane: 400;~~
- 14 ~~(88) — Hexachlorobenzene (perchlorobenzene): 0.02;~~
- 15 ~~(89) — Hexachlorobutadiene: 0.4;~~
- 16 ~~(90) — Hexachlorocyclohexane isomers (technical grade): 0.02;~~
- 17 ~~(91) — n-Hexane: 400;~~
- 18 ~~(92) — Indeno(1,2,3-cd)pyrene: 0.05;~~
- 19 ~~(93) — Iron: 300;~~
- 20 ~~(94) — Isophorone: 40;~~
- 21 ~~(95) — Isopropylbenzene: 70;~~
- 22 ~~(96) — Isopropyl ether: 70;~~
- 23 ~~(97) — Lead: 15;~~
- 24 ~~(98) — Lindane (gamma-hexachlorocyclohexane): 0.03;~~
- 25 ~~(99) — Manganese: 50;~~
- 26 ~~(100) — Mercury: 1;~~
- 27 ~~(101) — Methanol: 4 mg/L;~~
- 28 ~~(102) — Methoxychlor: 40;~~
- 29 ~~(103) — Methylene chloride (dichloromethane): 5;~~
- 30 ~~(104) — Methyl ethyl ketone (2-butanone): 4 mg/L;~~
- 31 ~~(105) — 2-Methylnaphthalene: 30;~~
- 32 ~~(106) — 3-Methylphenol (m-cresol): 400;~~
- 33 ~~(107) — 4-Methylphenol (p-cresol): 40;~~
- 34 ~~(108) — Methyl tert-butyl ether (MTBE): 20;~~
- 35 ~~(109) — Naphthalene: 6;~~
- 36 ~~(110) — Nickel: 100;~~
- 37 ~~(111) — Nitrate (as N): 10 mg/L;~~

- 1 ~~(112) Nitrite (as N): 1 mg/L;~~
2 ~~(113) N nitrosodimethylamine: 0.0007;~~
3 ~~(114) Oxamyl: 200;~~
4 ~~(115) Pentachlorophenol: 0.3;~~
5 ~~(116) Petroleum aliphatic carbon fraction class (C5—C8): 400;~~
6 ~~(117) Petroleum aliphatic carbon fraction class (C9—C18): 700;~~
7 ~~(118) Petroleum aliphatic carbon fraction class (C19—C36): 10 mg/L;~~
8 ~~(119) Petroleum aromatics carbon fraction class (C9—C22): 200;~~
9 ~~(120) pH: 6.5—8.5;~~
10 ~~(121) Phenanthrene: 200;~~
11 ~~(122) Phenol: 30;~~
12 ~~(123) Phorate: 1;~~
13 ~~(124) n-Propylbenzene: 70;~~
14 ~~(125) Pyrene: 200;~~
15 ~~(126) Selenium: 20;~~
16 ~~(127) Silver: 20;~~
17 ~~(128) Simazine: 4;~~
18 ~~(129) Styrene: 70;~~
19 ~~(130) Sulfate: 250 mg/L;~~
20 ~~(131) 1,1,2,2-Tetrachloroethane: 0.2;~~
21 ~~(132) Tetrachloroethylene (perchloroethylene; PCE): 0.7;~~
22 ~~(133) 2,3,4,6-Tetrachlorophenol: 200;~~
23 ~~(134) Toluene: 600;~~
24 ~~(135) Toxaphene: 0.03;~~
25 ~~(136) 2,4,5-TP (Silvex): 50;~~
26 ~~(137) 1,2,4-Trichlorobenzene: 70;~~
27 ~~(138) 1,1,1-Trichloroethane: 200;~~
28 ~~(139) Trichloroethylene (TCE): 3;~~
29 ~~(140) Trichlorofluoromethane: 2 mg/L;~~
30 ~~(141) 1,2,3-Trichloropropane: 0.005;~~
31 ~~(142) 1,2,4-Trimethylbenzene: 400;~~
32 ~~(143) 1,3,5-Trimethylbenzene: 400;~~
33 ~~(144) 1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113): 200 mg/L;~~
34 ~~(145) Vinyl chloride: 0.03;~~
35 ~~(146) Xylenes (o-, m-, and p-): 500; and~~
36 ~~(147) Zinc: 1 mg/L.~~

<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>

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- 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): ~~4000 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
- 8 other substances be caused to exceed the GA or GSA standards as a result of further disposal of
- 9 contaminants to or beneath the surface of the land within the boundary of the area classified GC.
- 10 (2) The concentrations of substances that, at the time of classification, exceed the standards applicable
- 11 to GA or GSA groundwaters shall not be caused to migrate as a result of activities within the
- 12 boundary of the GC classification, so as to violate the groundwater or surface water quality standards
- 13 in adjoining waters of a different class.
- 14 (3) Concentrations of specific substances, that exceed the established standard at the time of
- 15 classification, are listed in Section .0300 of this Subchapter.

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History Note: Authority G.S. 143-214.1; 143-214.2; 143-215.3(a)(1); 143-215.3(a)(4); 143B-282(a)(2); 150B-2(8a)(h); 150B-19(6);

Eff. June 10, 1979;

Amended Eff. November 1, 1994; October 1, 1993; September 1, 1992; August 1, 1989;

Temporary Amendment Eff. June 30, 2002;

Amended Eff. August 1, 2002;

Temporary Amendment Expired February 9, 2003;

Amended Eff. April 1, 2013; January 1, 2010; April 1, 2005;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. March 6, 2018;

Amended Eff. May 1, 2022.