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Article Content

Title Drinking Water Quality Standards Ch

Amended Date 2017.01.10

Article 1 These Standards are determined pursuant to Article 11, Paragraph 2 of the Drinking Water Management Act (herein referred to as "this Act").

Article 2 These standards shall apply to drinking water supplied from drinking water equipment designated in Article 4 of this Act and other drinking water designated by the central competent authority.

Article 3 Regulations of these standards are set forth herein.

| Item | Maximum limit | Unit |
|---|--------------------|---|
| 1. Coliform group | method) | Most probable number (MPN)/100 milliliters Colony-forming unit(CFU)/100 milliliters |
| 2. Total bacterial count | 100 | Colony-forming unit(CFU)/millilit |

II. Physical standards:

| Item | Maximum limit | Unit |
|--------------|--------------------|---|
| 1. Odor | 3 | Threshold odor number (TON) |
| 2. Turbidity | 2 | NTU (nephelometric turbidity unit) |
| 3. Color | 5 | Platinum-cobalt unit |

III. Chemical standards:

A. Substances that impact health:

| Item | Maximum limit | Unit | |
|------|---------------|------|--|

| 1. Arsenic | | 0.01 | milligrams/liter |
|--|--|---|-------------------------------|
| 2. Lead | | 0.01 | milligrams/liter |
| 3. Selenium | | 0.01 | milligrams/liter |
| 4. Total chro | mium | 0.05 | milligrams/liter |
| 5. Cadmium | | 0.005 | milligrams/liter |
| 6. Barium | | 2.0 | milligrams/liter |
| 7. Antimony | | 0.01 | milligrams/liter |
| 8. Nickel | | 0.1 | milligrams/liter |
| 9. Mercury | | 0.07 This standard is effective starting on July 1, 2018. 0.02 This standard is effective starting on July 1, 2020. 0.002 0.001 This standard is effective starting on July 1, 2020. | |
| 10. Cyanide (as CN-) | | 0.05 | |
| | | 0.1 | milligrams/liter |
| Disinfection byproducts | 12. Total Trihalomethanes | 0.08 | milligrams/liter |
| | 13. Haloacetic acids (This concentration is defined as the sum of measured | 0.060 | milligrams/liter |

| | concentrations for five haloacetic acids, including monochloroacetic acid (MCAA), | - - - - | |
|----------------------|---|--|---|
| | dichloroacetic acid (DCAA), trichloroacetic acid (TCAA), monobromoacetic acid (MBAA), and dibromoacetic acid.) | | |
| | 14. Bromate | 0.01 | milligrams/liter |
| | 15. Chlorite (This regulation only applies to water supply systems that use gaseous chlorine dioxide as disinfectant) | 0.060 | milligrams/liter |
| Volatile | 16. Trichloroethene | 0.005 | milligrams/liter |
| organic compounds | 17. Carbon tetrachloride | 0.005 | milligrams/liter |
| | 18. 1,1,1-Trichloroethane | 0.20 | milligrams/liter |
| | 19. 1,2-Dichloroethane | 0.005 | milligrams/liter |
| | 20. Vinyl chloride | 0.002 0.0003 This standard is effective starting on July 1, 2018. | milligrams/liter |
| | 21. Benzene | 0.005 | milligrams/liter |
| | 22. 1,4-Dichlorobenzene | 0.075 | milligrams/liter |
| | 23. 1.1-Dichloroethylene | 0.007 | milligrams/lite |
| | 24. Dichloromethane | 0.02 | milligrams/lite |

| | 25. 1,2-Dichlorobenzene | 0.6 | milligrams/liter |
|-----------|--|--------|------------------------|
| | 26. Toluene | 0.7 | milligrams/liter |
| | 27. Xylenes (This regulated concentration for Xylenes is defined as the sum of the measured concentrations of three xylene isomers, including 1,2-Xylene, 1,3-Xylene, and 1,4-Xylene.) | 0.5 | milligrams/liter |
| | 28. Cis-1,2-Dichloroethene | 0.07 | milligrams/liter |
| | 29. Trans-1,2-Dichloroethene | 0.1 | milligrams/liter |
| | 30. Tetrachloroethene | 0.005 | milligrams/liter |
| | 31. Endosulfan | 0.003 | milligrams/liter |
| chemicals | 32. Lindane | 0.0002 | milligrams/liter |
| | 33. Butachlor | 0.02 | milligrams/liter |
| | 34. Dichlorophenoxyacetic acid | 0.07 | milligrams/liter |
| | 35. Paraquat | 0.01 | milligrams/liter |
| | 36. Methomyl | 0.01 | milligrams/liter |
| | 37. Carbofuran | 0.02 | milligrams/liter |
| | 38. Isoprocarb | 0.02 | milligrams/liter |
| | 39. Methamidophos | 0.02 | milligrams/liter |
| | 40. Diazinon | 0.005 | milligrams/liter |
| | 41. Parathion | 0.02 | milligrams/liter |

| | 42. EPN | 0.005 | milligrams/liter |
|-------------------------------|--|----------------|---|
| | 43. Monocrotophos | 0.003 | milligrams/liter |
| Persistent organic pollutants | 43. Monocrotophos 44 Dioxin This regulated concentration for Dioxin is defined as the sum of the measured concentrations of 17 compounds, including 2,3,7,8- Tetrachlorinated dibenzo-p-dioxin-2,3 ,7,8-TeCDD, 2,3,7,8- Tetra chlorinated dibenzofuran,2,3,7,8- TeCDF and 2,3,7,8- penta-, hexa-, hepta- , and octa- chlorinated dioxins and furan. This regulated concentration for Dioxin is multiplied by the dioxin toxic equivalency factor (WHO-TEFs) provided by World Health Organization, and is expressed as a total toxicity equivalency quantity (TEQ). (If any drinking | | milligrams/liter Petagram - World Health Organization - total toxicity equivalency quantity/liter (pg-WHO-TEQ/L) |
| | water treatment facilities locate within a 5-kilometer | | |
| | distance having a large pollution source, it must be monitored once every year. If the | | |
| | measured Dioxin concentrations do not exceed the | | |

| 1 | maximum permitted | |
|---|-------------------|--|
| | limit for two | |
| | consecutive years | |
| | , the monitoring | |
| | frequency may be | |
| | reduced to once | |
| | every two years | |
| | starting in the | |
| | following year.) | |
| | | |

B. Substances with potential health impact:

| Item | Maximum limit | Unit |
|---|--|--------------------------------------|
| 1. Flouride (as F-) | 0.8 | milligrams/liter |
| 2. Nitrate nitrogen | 10.0 | milligrams/liter |
| 3. Silver | 0.05 | milligrams/liter |
| 4. Molybdenum (This regulation only applies to water supply systems with a potential pollution source, such as those with semiconductor fabrication plants, optoelectronic manufacturing plants, or parts manufacturing plants, located within a 5-kilometer distance upstream from their water intake. The testing frequency is once per quarter. If the test values do not exceed the maximum permissible limits for two consecutive years, the testing frequency could reduce to once per year from the following year.) | 0.07 | milligrams/liter |
| 5. Indium (This regulation only applies to water supply systems with a potential pollution source, such as those with semiconductor | 0.07 | milligrams/liter |

| fabrication plants, | | |
|--------------------------------|----------|--|
| optoelectronic manufacturing | | |
| plants, or parts manufacturing | | |
| plants, located within a | | |
| 5-kilometer distance upstream | | |
| from their water intake The | | |
| testing frequency is once per | | |
| quarter. If the test values do | | |
| not exceed the maximum | | |
| permissible limits for two | | |
| consecutive years, the testing | | |
| frequency could reduce to once | | |
| per year from the following | | |
| year.) | | |
| | | |
| | <u> </u> | |

C. Contaminants that cause aesthetic, cosmetic, and technical effects:

| Item | Maximum limit | Unit - |
|----------------------------------|-------------------------|----------------------------|
| 1. Iron | 0.3 | milligrams/liter |
| 2. Manganese | 0.05 | milligrams/liter |
| 3. Copper | 1.0 | milligrams/liter |
| 4. Zinc | 5.0 | milligrams/liter |
| 5. Sulfate (as SO4-2) | 250 | milligrams/liter |
| 6. Phenols | 0.001 | milligrams/liter |
| 7. Anionic surface-active agents | 0.5 | milligrams/liter |
| 8. Chloride (as Cl) | 250 | milligrams/liter |
| 9. Ammonia nitrogen | 0.1 | milligrams/liter |
| 10. Total hardness as CaCO3 | 300 | milligrams/liter |
| 11. Total dissolved solids | 500 | milligrams/liter |
| 12. Aluminum | 0.3 | milligrams/liter |

| (This regulation | |
|--------------------------|----------------|
| concentration is defined | 0.2 |
| as the concentration of | This standard |
| total aluminum.) | is effective |
| | starting on |
| | July 1, 2019. |
| | |
| | (This |
| | regulation is |
| | not applicable |
| | when the |
| | turbidity of |
| | the water |
| | source is over |
| | 500 NTU in the |
| | period of |
| | t yphoon |
| | landfall |
| | warning, and |
| | when the |
| | turbidity of |
| | water source |
| | is over 1000 |
| | NTU during the |
| | three days |
| | after the |
| | warning is |
| | lifted.) |
| | |

D. Limit range of residual chlorine (Limited to water supply systems using chlorine as disinfectant):

| Item | Maximum limit | Unit |
|----------------------------------|--------------------|------------------|
| Free available residual chlorine | 0.2-1.0 | milligrams/liter |

E. Range for pH index (water treated by stationary continuous water supply equipment on public or private premises are not be subjected to this limitation):

| Item | Maximum | Unit |
|----------------------------------|---------|------|
| | limit | |
| | | |
| Hydrogen ion concentration index | | |

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|------|-----------|--|--|
| (pn | varue) | | |
| | | | |

- Article 4 For tap water, small water treatment facilities, and community-installed public water supply systems, when source water turbidity values exceed 1,500 NTU caused by torrential rains or other natural disasters, the maximum turbidity limit for drinking water may apply to 4 NTU.

 Drinking water source turbidity testing data in the foregoing paragraph shall be provided by tap water enterprises, small water treatment units or community-installed public water supply units.
- Article 5 For tap water, small water treatment facilities, and community-installed public water supply systems, when source water turbidity values exceed 1,500 NTU caused by torrential rains or other natural disasters, the limit range of free available residual chlorine may apply to follow values (shall apply only to water supply systems that add chlorine disinfectants).

| Item | Limit range | Unit |
|----------------------------------|------------------|------------|
| Free available residual chlorine | 0.2-2.0 | milligrams |

- Article 6 (Deleted)
- Article 7 Testing methods for each water quality item designated in these Standards shall be designated and officially announced by the central competent authority.
- Article 8 A competent authority that conducts water quality analysis in accordance with these Standards may commission an approved analysis laboratory to assist with analysis.
- Article 9 Unless an implementation date is separately designated, the regulation items in these standards shall take effect on the date of promulgation.