



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Programs

Proposed Rulemaking: Triennial Review of Water Quality Standards (TR #10)

Environmental Quality Board Meeting

July 11, 2023

Josh Shapiro, Governor

Richard Negrin, Secretary

Water Quality Standards

- Implement Sections 5 and 402 of The Clean Streams Law and Section 303 of the Federal Clean Water Act
- Protected water uses, water quality criteria and an antidegradation policy
 - 25 Pa. Code Chapter 93
 - 25 Pa. Code Chapter 16

Proposed Rulemaking

Proposed Updates and Corrections

- 17 new or updated WQ Criteria
 - 14 Human Health (HH)
 - 3 Aquatic Life (AL)
- Exceptions for fishable/swimmable uses
 - Sections of the Lower Delaware River Basin and The Erie Harbor
- Minor edits/clarifications to Chapter 93

Human Health Water Quality Criteria

- Established to protect human health from toxic substances
- EPA criteria recommendations under § 304(a) of the federal Clean Water Act
- *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (EPA 2000)
- Chapters 93 and 16

▶ Human Health Water Quality Criteria

- **Department-derived Human Health criteria**
 - Recalculated based on new exposure inputs
 - 7 criteria more stringent; 4 criteria less stringent
 - 1,4 – Dioxane (carcinogen)
- **EPA § 304(a) Recommendations**
 - 2,4-D (chlorophenoxy herbicide)
 - Chloroform

Human Health Water Quality Criteria

Pollutant	DEP Current ($\mu\text{g/L}$)	DEP Recommended ($\mu\text{g/L}$)
Barium	2400	1000
Boron	3100	1000
Methyl ethyl ketone	21000	4000
1,2,3-trichloropropane	210	30
1,2,4-trimethylbenzene	72	10
1,3,5-trimethylbenzene	72	10
Xylene	70000	1000
Acetone	3500	6000
Formaldehyde	700	1000
Metolachlor	69	700
Resorcinol	2700	3000

Human Health Water Quality Criteria

1,4-dioxane

- Previously evaluated in TR#8 (2013)
- Additional data collection and evaluation
- Identified by EPA as a likely human carcinogen
- Ambient Water Quality Criterion
= 0.3 $\mu\text{g/L}$

Human Health Water Quality Criteria

- 2,4-D (chlorophenoxy herbicide)
 - 1,400 $\mu\text{g/L}$ adopted in TR#9 (2020)
 - EPA disapproved; not consistent with EPA recommendation of 1,300 $\mu\text{g/L}$
 - Proposed criterion is 1,300 $\mu\text{g/L}$
- Chloroform
 - Removed from TR#9 by Department
 - Proposed criterion is 60 $\mu\text{g/L}$; consistent with EPA recommendation

Aquatic Life Water Quality Criteria

- Established to protect aquatic life from toxic substances
- EPA criteria recommendations under § 304(a) of the federal Clean Water Act
- *Guidelines for Deriving Numeric National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (EPA, 1985)
- Chapters 93 and 16

Aquatic Life Water Quality Criteria

- Components
 - Magnitudes
 - Criteria Maximum Concentration (CMC) – Acute
 - Criteria Continuous Concentration (CCC) – Chronic
 - Duration (1-hr. and 4-day avg.)
 - Frequency (once every 3 years)
- Data requirements

Aquatic Life Water Quality Criteria

EPA § 304(a) Recommendations

- Cadmium (updated)
- Carbaryl (new)
- Tributyltin (TBT) (new)

Aquatic Life Water Quality Criteria

Cadmium Criteria

- Magnitude
 - $CMC = \{1.136672 - [(\ln[H]) \times (0.041838)]\} \times \text{Exp}(0.9789 \times \ln[H] - 3.866)$
 - $CCC = \{1.101672 - [(\ln[H]) \times (0.041838)]\} \times \text{Exp}(0.7977 \times \ln[H] - 3.909)$
- Duration
 - CMC = 1-hour average
 - CCC = 4-day average
- Frequency
 - Not to be exceeded more than once every three years

Aquatic Life Water Quality Criteria

Carbaryl Criteria

- Magnitude
 - CMC = 2.1 $\mu\text{g/L}$
 - CCC = 2.1 $\mu\text{g/L}$
- Duration
 - CMC = 1-hour average
 - CCC = 4-day average
- Frequency
 - Not to be exceeded more than once every three years

Aquatic Life Water Quality Criteria

Tributyltin (TBT) Criteria

- Magnitude
 - CMC = 0.46 $\mu\text{g/L}$
 - CCC = 0.072 $\mu\text{g/L}$
- Duration
 - CMC = 1-hour average
 - CCC = 4-day average
- Frequency
 - Not to be exceeded more than once every three years

▶ Non-Fishable/Non-Swimmable Waters

Need to reaffirm existing exclusions of the “fishable/swimmable” uses are still applicable

- Harbor Area and central channel to Outer Erie Harbor/ Presque Isle Bay (§ 93.9x)
- Zones 3 & 4 within a portion of the Delaware Estuary (§§ 93.9e & 93.9g)

Minor Edits / Clarifications to Ch 93

- Deletion of reference to Appendix A, Table 1A from § 93.1. Definitions
- Addition of language to §§ 93.7, 93.8c, 93.8e, and 93.9 that clarifies the duration of the aquatic life criteria contained within those sections
- Updates to the notes for Tables 5 and 6, including:
 - Replacement “H”, “CRL”, “*”, and “†” with numerals
 - Addition of a new note for specific criteria durations

Affected Parties

- The Department identified 274 facilities with active National Pollutant Discharge Elimination System (NPDES) permits for discharges.
- This proposed rulemaking may result in both more stringent and less stringent effluent limitations dependent upon the pollutant and site-specific characteristics.

Advisory Committees

- Presented draft recommendations to the Water Resources Advisory Committee (WRAC) on November 17, 2022, and the Agricultural Advisory Board on December 8, 2022
- WRAC voted to support presentation of this proposed rulemaking to the Board.

Recommendation

The Department recommends the Board adopt the proposed regulation with a 45-day public comment period and at least one public hearing.



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