



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Management

Triennial Review of Water Quality Standards - TR13 25 Pa. Code, Chapters 16 & 93

Final Rulemaking
Environmental Quality Board
April 16, 2013

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TR13 Proposed Rulemaking

- Summary of Proposed Rulemaking:
 - Approved by EQB: April 17, 2012
 - Published in Pa Bulletin: July 7, 2012
 - Public Hearing: August 8, 2012
 - Public Comment Period Ended: August 21, 2012
 - WRAC Sulfate & Mo Ad Hoc Meetings: Aug 27 & 29
 - IRRC Comments: September 20, 2012

Recommended Changes to TR13: Proposed to Final Rulemaking

- §93.7 Table 3:
 - Chloride, Sulfate & Temperature
- §93.8c Table 5:
 - 1,4-Dioxane & Molybdenum
- Other Corrections, Clarifications & Edits:
 - §93.7 Table 3 Dissolved Oxygen
 - References to Chapter 92a NPDES Regulations
 - 93.9k Drainage List K:
 - Tributaries to Susquehanna River

TABLE 3

Sulfate	Sul ₁	Maximum 250 mg/L	PWS
	<u>[Sul₂</u>	<p><u>Shall not exceed the result of the appropriate hardness and chloride based conditional numeric limits (in mg/L sulfate) as described below. Hardness (in mg/L as CaCO₂) and chloride (in mg/L) values used in the determination of the sulfate water quality standard shall be based on receiving water natural quality.</u></p> <p><u>A.) 500 mg/L, if the hardness concentration is less than 100 mg/L, or chloride concentration is less than 5 mg/L.</u></p> <p><u>B.) The result of the following equations (in mg/L sulfate) when the hardness value is greater than or equal to 100 mg/L, but less than or equal to 500 mg/L:</u></p> <p><u>– 1.) if the chloride value is greater than or equal to 5 mg/L, but less than 25 mg/L:</u> <u>$S = [57.478 + 5.79 (\text{hardness}) + 54.163 (\text{chloride})] * 0.65$</u> <u>where, S = sulfate concentration; or</u></p> <p><u>– 2.) if the chloride value is greater than or equal to 25 mg/L:</u> <u>$S = [1276.7 + 5.508 (\text{hardness}) - 1.457 (\text{chloride})] * 0.65$</u> <u>where, S = sulfate concentration</u></p> <p><u>C.) 2,000 mg/L, if the hardness concentration is greater than 500 mg/L and the chloride concentration is 5 mg/L or greater.</u></p>	<u>CWF, WWF, TSE, MF]</u>

93.7 Specific Water Quality Criteria

TABLE 3 (continued)

Parameter	Symbol	Criteria	Critical Use*
		* * * * *	
Chloride	Ch _[1]	Maximum 250 mg/L	PWS
	[Ch ₂	<p><u>Shall not exceed, in freshwater, the concentration calculated (in mg/L) by the following equations:</u></p> <p><u>1 hour average Criteria Maximum Concentration (CMC) criterion:</u></p> $CMC = 287.8(\text{Hardness})^{0.205797}(\text{Sulfate})^{-0.07452}$ <p><u>4 day average Criteria Continuous Concentration (CCC) criterion:</u></p> $CCC = 177.87(\text{Hardness})^{0.205797}(\text{Sulfate})^{-0.07452}$ <p><u>Hardness (in mg/L as CaCO₃) and sulfate (in mg/L) values shall be based on receiving water natural quality.</u></p>	<u>CWF, WWF, TSF, MF]</u>

TABLE 3 (continued)

	DO ₁	<p>For flowing waters, [minimum daily] <u>7-day average 6.0 mg/l; minimum 5.0 mg/l. For naturally reproducing [S]salmonid early life stages, APPLIED</u></p> <p><u>IN ACCORDANCE WITH (b), 7-day average 9.0 mg/l; minimum 8.0 mg/l</u>[, in accordance with (b)]. For lakes, ponds and impoundments, minimum 5.0 mg/l.</p>	<p>CWF [HQ-WWF] [HQ-TSF]</p>
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TABLE 3 (continued)

Temperature		Maximum temperatures in the receiving water body resulting from heated waste sources regulated under Chapters [92] <u>92a</u> , 96 and other sources where temperature limits are necessary to protect designated and existing uses. [Additionally, these wastes may not result in a change by more than 2°F during a 1-hour period.]	See the following table.
		* * * * *	

§ 93.8c. Human health and aquatic life criteria for toxic substances.

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TABLE 5

WATER QUALITY CRITERIA FOR TOXIC SUBSTANCES

PP NO	Chemical Name	CAS Number	Fish and Aquatic Life Criteria		Human Health Criteria (ug/L)	
			Criteria Continuous Concentrations (ug/L)	Criteria Maximum Concentration (ug/L)		
			* * * * *			
[—	<u>1,4-DIOXANE</u>	<u>00123911</u>	<u>N/A</u>	<u>N/A</u>	<u>0.35</u>	<u>CRL</u>]
[—	<u>MOLYBDENUM</u>	<u>7439987</u>	<u>1900</u>	<u>6000</u>	<u>210</u>	<u>H</u>]

Updates and Corrections

§ 93.8d. Development of site-specific water quality criteria.

- **Correct reference to Chapter 92a**

§ 93.9k. Drainage List K.

- **Reformat Drainage List to capture missing tributaries**
 - **Packers Run**
 - **Raups Run**
 - **Gaskins Run**
 - **Kipps Run**



Action Requested

Approve TR13 Final Rulemaking