

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: 2,4,6-TrinitrotolueneDeveloped by: Chris J. SkalskiCAS # 118-96-7Data Retrieval Date: 10-10-01Internal Code # ---Fact Sheet Preparation Date: 3-01-06ACUTE DATA

<u>SPECIES</u>	<u>EC₅₀/LC₅₀</u> <u>(µg/l)</u>	<u>TEST TYPE^a</u>	<u>DURATION</u> <u>(HOURS)</u>	<u>SMAV^b</u> <u>(µg/l)</u>	<u>GMAV^b</u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
Cladoceran	11,900	S,U	48	9,777	9,777	1
<i>Daphnia magna</i>	6,600	S,M	48			2
	11,900	S,U	48			3
Midge	24,800	S,U	48	24,800	24,800	3
<i>Tanytarsus dissimilis</i>						
Flatworm	1,560	R,U	96	1,560	1,560	4
<i>Dugesia dorotocephala</i>						
Channel Catfish	2,400	S,U	96	2,400	2,400	3
<i>Ictalurus punctatus</i>						
Bluegill	2,200	S,U	96	2,487	2,487	5
<i>Lepomis macrochirus</i>	2,100	S,U	96			5
	2,200	S,U	96			5
	2,700	S,U	96			5
	2,800	S,U	96			5
	4,100	S,U	96			5
	2,700	S,U	96			5
	2,800	S,U	96			5
	2,300	R,U	96			5
	1,600	R,U	96			5
	2,300	R,U	96			5
	2,300	R,U	96			5
	3,000	S,U	96			3
Rainbow Trout	1,200	S,U	96	1,200	1,200	3
<i>Oncorhynchus mykiss</i>						
Fathead Minnow	2,580	F,M	96	2,580	2,580	6
<i>Pimephales promelas</i>	2,400	S,U	96			1
	2,400	S,M	96			2
	1,200	S,M	96			2
	2,000	S,M	96			2
	3,000	S,U	96			7
	3,100	S,U	96			3

^a S = static; F= flow through; R = renewal; U = unmeasured; M = measured.

^b SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.

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CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> ($\mu\text{g/l}$)	<u>METHOD</u>	<u>SMCV^a</u> ($\mu\text{g/l}$)	<u>GMCV^a</u> ($\mu\text{g/l}$)	<u>REFERENCE</u> <u>NUMBER</u>
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No Chronic Data Available

^a SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

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- Pearson, J.G., J.P. Glennon, J.J. Barkley and J.W. Highfill. 1979. An Approach to the Toxicological Evaluation of a Complex Industrial Wastewater. In: L.L. Marking and R.A. Kimerle (Eds.), Aquatic Toxicology and Hazard Assessment, 2nd Symposium, ASTM STP 667, Philadelphia, PA:284-301.
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- Smock, L.A., D.L. Stoneburner and J.R. Clark. 1976. The Toxic Effects of Trinitrotoluene (TNT) and its Primary Degradation Products on Two Species of Algae and the Fathead Minnow. Water Res. 10(6):537-543.
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Chemical Name: 2,4,6-TrinitrotolueneDeveloped by: Chris J. SkalskiCAS # 118-96-7Data Retrieval Date: 10-10-01Internal Code # ---Fact Sheet Preparation Date: 3-01-06CALCULATION OF ACUTE AQUATIC VALUE (AAV)^a

<u>Data Requirement</u> <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	<u>GMAV</u> <u>(µg/l)</u>
(a)	Rainbow Trout	1,200
(b)	Channel Catfish	2,400
(c)	Fathead Minnow	2,580
(d)	<i>Daphnia magna</i>	9,777
(f)	Midge	24,800
(g)	Flatworm	1,560

Secondary Acute Factor (SAF) = 5.2

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 1,200 ÷ 5.2
= 230 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 230 ÷ 2
= 115 = 120 µg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)^a

Experimentally determined Acute-Chronic Ratios (ACRs):

<u>SPECIES</u>	<u>ACUTE VALUE</u> <u>(µg/l)</u>	<u>CHRONIC VALUE</u> <u>(µg/l)</u>	<u>ACUTE-CHRONIC</u> <u>RATIO</u>	<u>SPECIES MEAN</u> <u>ACR</u>
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None Available

Secondary Acute-Chronic Ratio (SACR) = $\sqrt[3]{(18)(18)(18)} = 18$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 230 ÷ 18
= 13 µg/l

^a See Ohio Administrative Code 3745-1-36 effective February 22, 2002.