

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: 2,3-Dinitrotoluene Developed by: Chris J. SkalskiCAS # 602-01-7 Data Retrieval Date: 10-11-01Internal 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	4,700	S,U	48	1,761	1,761	1
<i>Daphnia magna</i>	660	S,U	48			2
Fathead Minnow	1,900	S,U	96	1,849	1,849	1
<i>Pimephales promelas</i>	1,800	S,U	96			3
Bluegill	330	S,U	96	330	330	4
<i>Lepomis macrochirus</i>						

^a S = static; U = unmeasured.^b SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.CHRONIC DATA

<u>SPECIES</u>	<u>CHRONIC VALUE</u> <u>(µg/l)</u>	<u>METHOD</u>	<u>SMCV^a</u> <u>(µg/l)</u>	<u>GMCV^a</u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
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None Available

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

- 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.
- LeBlanc, G.A. 1980. Acute toxicity of Priority Pollutants to Water flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.
- Bailey, H.C. and R.J. Spanggord. 1983. The Relationship Between the Toxicity and Structure of Nitroaromatic Chemicals. In: W.E. Bishop, R.D. Cardwell and B.B. Heidolph (Eds.), Aquatic Toxicology and Hazard Assessment, 6th Symposium, ASTM STP 802, Philadelphia, PA:98-107.
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Bluegill (*Lepomis macrochirus*). Bull. Environ. Contam. Toxicol. 26(4):446-452.

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Chemical Name: 2,3-Dinitrotoluene Developed by: Chris J. SkalskiCAS # 602-01-7 Data Retrieval Date: 10-11-01Internal Code # --- Fact Sheet Preparation Date: 3-01-06CALCULATION OF ACUTE AQUATIC VALUE (AAV)^a

Data Requirement <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	GMAV <u>(µg/l)</u>
(b)	Bluegill	330
(c)	Fathead Minnow	1,849
(d)	<i>Daphnia magna</i>	1,761

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 330 ÷ 8.0
= 41 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 41 ÷ 2
= 21 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
= 41 ÷ 18
= 2.3 µg/l

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