

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: 1,3-Dichloropropene Developed by: Chris J. SkalskiCAS # 542-75-6 Data Retrieval Date: 9-05-97Internal Code # 60 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	6,200	S,U	48	6,200	6,200	1
<i>Daphnia magna</i>	90 ^c	S,U	48			2
Fathead Minnow	4,100	S,U	96	239	239	2
<i>Pimephales promelas</i>	239	F,M	96			3
Bluegill	6,100	S,U	96	6,100	6,100	4
<i>Lepomis macrochirus</i>						
Largemouth Bass	3,650	S,U	96	3,650	3,650	2
<i>Micropterus salmoides</i>						
Walleye	1,080	S,U	96	1,080	1,080	2
<i>Stizostedion vitreum</i>						

^a S = static; F= flow through; U = unmeasured; M = measured.^b SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.^c Data not used to calculate the SMAV since it varied by more than a factor of 10 from the remaining data for this species.CHRONIC DATA

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

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

1. LeBlanc, G.A. 1980. Acute Toxicity of Priority Pollutants to Water Flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.
2. Mayer, F.L., Jr. and M.R. Ellersieck. 1986. Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals. Fish and Wildlife Service, U.S.D.I., Resource Publication 160, Washington, D.C.:506 p.
3. Geiger, D.L., L.T. Brooke and D.J. Call. 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 5. Center for Lake Superior Environmental Studies, Univ. Of Wisconsin, Superior, WI:332 p.
4. Buccafusco, R.J., S.J. Ells and G.A. LeBlanc. 1981. Acute Toxicity of Priority Pollutants to Bluegill

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(*Lepomis macrochirus*). Bull. Environ. Contam. Toxicol. 26(4):446-452.

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CALCULATION 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>
(b)	Bluegill	6,100
(c)	Fathead Minnow	239
(d)	<i>Daphnia magna</i>	6,200

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
 = 239 ÷ 8.0
 = 30 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
 = 30 ÷ 2
 = 15 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>
				None Available

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
 = 30 ÷ 18
 = 1.7 µg/l

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