

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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Chemical Name: 1,2-Dichloropropane Developed by: Chris J. Skalski

CAS # 78-87-5 Data Retrieval Date: 9-05-97

Internal Code # 59 Fact Sheet Preparation Date: 3-01-06

ACUTE DATA

<u>SPECIES</u>	<u>EC<sub>50</sub>/LC<sub>50</sub></u> <u>(µg/l)</u>	<u>TEST TYPE<sup>a</sup></u>	<u>DURATION</u> <u>(HOURS)</u>	<u>SMAV<sup>b</sup></u> <u>(µg/l)</u>	<u>GMAV<sup>b</sup></u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
Cladoceran <i>Daphnia magna</i>	52,000	S,M	48	52,000	52,000	1
Fathead Minnow <i>Pimephales promelas</i>	140,000 127,000	F,M F,M	96 96	133,342	133,342	2 3
Bluegill <i>Lepomis macrochirus</i>	280,000 320,000	S,U S,U	96 96	299,333	299,333	4 5

<sup>a</sup> S = static; F= flow through; U = unmeasured; M = measured.

<sup>b</sup> 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<sup>a</sup></u> <u>(µg/l)</u>	<u>GMCV<sup>a</sup></u> <u>(µg/l)</u>	<u>REFERENCE</u> <u>NUMBER</u>
Fathead Minnow <i>Pimephales promelas</i>	6,000-11,000 8,124	Embryo-Larval	22,139	22,139	6
Fathead Minnow <i>Pimephales promelas</i>	6,000-11,000 <sup>b</sup> 8,124	Embryo-Larval			7
Fathead Minnow <i>Pimephales promelas</i>	40,000-91,000 60,332	Embryo-Larval			7

<sup>a</sup> SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

<sup>b</sup> Duplicate data not used to calculate the SMAV.

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## REFERENCES

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### CALCULATION OF ACUTE AQUATIC VALUE (AAV)<sup>a</sup>

<u>Data Requirement</u> <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	<u>GMAV</u> <u>(µg/l)</u>
(b)	Bluegill	299,333
(c)	Fathead Minnow	133,342
(d)	<i>Daphnia magna</i>	52,000

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF  
 = 52,000 ÷ 8.0  
 = 6,500 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2  
 = 6,500 ÷ 2  
 = 3,250 = 3,300 µg/l

### CALCULATION OF CHRONIC AQUATIC VALUE (CAV)<sup>a</sup>

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>
Fathead Minnow <i>Pimephales promelas</i>	140,000	8,124	17.23	6.17
Fathead Minnow <i>Pimephales promelas</i>	133,342	60,332	2.21	

Secondary Acute-Chronic Ratio (SACR) =  $\sqrt[3]{(6.17)(18)(18)} = 12.6$

Chronic Aquatic Value (CAV) = SAV ÷ SACR  
 = 6,500 ÷ 12.6  
 = 516 = 520 µg/l

<sup>a</sup>See Ohio Administrative Code 3745-1-36 effective February 22, 2002.