

## OHIO EPA AQUATIC LIFE WATER QUALITY SCREENING VALUE FACT SHEET

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Chemical Name: 1,1-Dichloroethane Developed by: Chris J. SkalskiCAS # 75-34-3 Data Retrieval Date: 1-22-99Internal Code # 54 Fact Sheet Preparation Date: 3-01-06ACUTE 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>	58,574	QSAR	48			1
Bluegill <i>Lepomis macrochirus</i>	89,990	QSAR	96			1
Fathead Minnow <i>Pimephales promelas</i>	119,069	QSAR	96			1
Channel Catfish <i>Ictalurus punctatus</i>	51,253	QSAR	96			1
Rainbow Trout <i>Oncorhynchus</i>	54,202	QSAR	96			1

<sup>a</sup> QSAR = Quantitative Structure Activity Relationship.<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<sup>a</sup></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>
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No Chronic Data Available

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

- USEPA ASTER database, January 22, 1999.

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CALCULATION OF ACUTE SCREENING 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>
(a)	Rainbow Trout	54,202
(b)	Channel Catfish	51,253
(c)	Bluegill	89,990
(d)	<i>Daphnia magna</i>	58,574

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF  
 = 51,253 ÷ 7.0  
 = 7,322 = 7,300 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2  
 = 7,322 ÷ 2  
 = 3,691 = 3,700 µg/l

CALCULATION OF CHRONIC SCREENING 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>
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No Chronic Data Available

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR  
 = 7,322 ÷ 18  
 = 407 = 410 µg/l

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