

OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

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

CAS # 630-20-6 Data Retrieval Date: 10-29-97

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

ACUTE 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 <i>Daphnia magna</i>	24,000	S,U	48	24,000	24,000	1
Bluegill <i>Lepomis macrochirus</i>	20,000	S,U	96	20,000	20,000	2

^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

1. LeBlanc, G.A. 1980. Acute Toxicity of Priority Pollutants to Water Flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.
2. Buccafusco, R.J., S.J. Ells and G.A. LeBlanc. 1981. Acute Toxicity of Priority Pollutants to Bluegill (*Lepomis macrochirus*). Bull. Environ. Contam. Toxicol. 26(4):446-452.

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<u>Data Requirement</u> <u>OAC 3745-1-36(A)(1)</u>	<u>SPECIES</u>	<u>GMAV</u> <u>($\mu\text{g/l}$)</u>
(b)	Bluegill	20,000
(d)	<i>Daphnia magna</i>	24,000

Secondary Acute Factor (SAF) = 13.0

Secondary Acute Value (SAV) = Lowest GMAV \div SAF
 = 20,000 \div 13.0
 = 1,539 = 1,500 $\mu\text{g/l}$

Tier II Acute Aquatic Value (AAV) = SAV \div 2
 = 1,539 \div 2
 = 769 = 770 $\mu\text{g/l}$

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)^a

Experimentally determined Acute-Chronic Ratios (ACRs):

<u>SPECIES</u>	<u>ACUTE VALUE</u> <u>($\mu\text{g/l}$)</u>	<u>CHRONIC VALUE</u> <u>($\mu\text{g/l}$)</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 \div SACR
 = 1,539 \div 18
 = 85 $\mu\text{g/l}$

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