OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: Carbon tetrachloride (tetrachloromethane) Developed by: Chris J. Skalski
CAS # 56-23-5 Data Retrieval Date: 9-05-97
Internal Code # 30 Fact Sheet Preparation Date: 3-01-06

ACUTE DATA

SPECIES	EC_{50}/LC_{50} (µg/l)	TEST TYPE[a]	DURATION (HOURS)	SMAV[b] (µg/l)	GMAV[b] (µg/l)	REFERENCE NUMBER
Cladoceran *Daphnia magna*	35,000	S,U	48	35,000	35,000	1
Bluegill	125,000	S,U	96	58,095	58,095	2
Lepomis macrochirus	27,000	S,U	96			3
Fathead Minnow	41,400	F,M	96	42,525	42,525	4
Pimephales promelas	43,300	F,M	96			5
	42,900	F,M	96			5

[a] S = static; F= flow through; U = unmeasured; M = measured.
[b] SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

CHRONIC DATA

SPECIES	CHRONIC VALUE (µg/l)	METHOD	SMCV[a] (µg/l)	GMCV[a] (µg/l)	REFERENCE NUMBER

No Chronic Data

[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. Dawson, G.W., A.L. Jennings, D. Drozdowski and E. Rider. 1977. The Acute Toxicity of 47 Industrial Chemicals to Fresh and Saltwater Fishes. J. Hazard. Mater. 1(4):303-318.

3. 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.

4. 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.

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Univ. of Minnesota, Minneapolis, MN:88p

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (μg/l)
(b)	Bluegill	58,095
(c)	Fathead Minnow	42,525
(d)	*Daphnia magna*	35,000

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 35,000 ÷ 8.0
= 4,375 = 4,400 μg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 4,375 ÷ 2
= 2,188 = 2,200 μg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)[a]

Experimentally determined Acute-Chronic Ratios (ACRs):

SPECIES	ACUTE VALUE (μg/l)	CHRONIC VALUE (μg/l)	ACUTE-CHRONIC RATIO	SPECIES MEAN ACR
None Available				

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 4,375 ÷ 18
= 240 μg/l

[a] See Ohio Administrative Code 3745-1-36 effective February 22, 2002.