Chemical Name: 1,1,1-Trichloroethane — Developed by: Chris J. Skalski
CAS # 71-55-6 — Data Retrieval Date: 1-15-99
Internal Code # 121 — 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*	>530,000	S,U	48	>530,000	>530,000	1
Bluegill *Lepomis macrochirus*	72,000[d]	S,U	96			2
Fathead Minnow	52,800[e]	F,M	96	17,880	17,880	3
Pimephales promelas	105,000	S,U	96			3
	11,100	F,M	96			3
	52,900[c]	F,M	96			4
	42,300[e]	F,M	96			4
	28,800	F,M	96			4

[a] S = static; F = flow through; M = measured; U = unmeasured.
[b] SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.
[c] Test data not used because this test was repeated by the investigator since deaths occurred in only the highest tested concentration (100% mortality), while no mortalites occurred in any other treatment. No confidence limits could be calculated.
[d] Test data not used to calculate an SMAV since the investigator reported the presence of undissolved chemical during the test.
[e] Test data not used to calculate the SMAV since corresponding EC_{50}s based upon loss of equilibrium by the test organisms were also determined and used in preference of the LC_{50}s.

CHRONIC DATA

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

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.

3. Alexander, H.C., W.M. McCarty and E.A. Bartlett. 1978. Toxicity of Perchloroethylene, Trichloroethylene, 1,1,1-Trichloroethane, and Methylene Chloride to Fathead Minnows. Bull. Environ. Contam. Toxicol. 20(3):344-352.

4. Geiger, D.L., S.H. Poirier, L.T. Brooke and D.J. Call. 1986. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 3. Center for Lake Superior Environmental Studies, Univ. of Wisconsin, Superior, WI:328 p.

CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(c)	Fathead Minnow	17,880
(d)	*Daphnia magna*	>530,000

Secondary Acute Factor (SAF) = 13.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 17,880 ÷ 13.0
= 1,375 = 1,400 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 1,375 ÷ 2
= 688 = 690 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
= 1,375 ÷ 18
= 76 µg/l

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