

Rule 57 Aquatic Values Data Sheet

369

Chemical name: 1,3-Dichloropropylene
CAS #: 542-75-6

Developed by: D. Bush
Approved by: B. Sayler
Approval date: 8/28/07
Literature search date: 8/14/2006

FAV: 160 ug/L (Tier 1)
AMV: 81 ug/L (Tier 1)
FCV: 9.0 ug/L (Tier 2)
Acute CF: ---- Chronic CF: ----

ACUTE DATA

Species	Test type (EC or LC50)	Duration (hours)	Test conditions (FT,M, etc.)	Hardness mg/L	Chemical	LC50/EC50 ug/L	SMAV ug/L	GMAV ug/L	Rank	Refer
Fathead minnows (<i>Pimephales promelas</i>)	LC50	96	FT,M	46		239	239	239	1	1
	LC50	96	S,U	44		4100*				2
	LC50	96	S,U	35		2320*				3
Water flea (<i>Daphnia magna</i>)	EC50	48	S,U	44		90	747	747	2	2
	LC50	48	S,U	72		6,200				4
329 Walleye (<i>Stizostedion vitreum</i>)	LC50	96	S,U	272		1,080	1,080	1,080	3	2
316 Midge (<i>Chironomus riparius</i>)	LC50	48	S,U	46		1,350	1,350	1,350	4	5
177 Scud (<i>Gammarus minus</i>)	LC50	96	S,U	44		2,000	2,000	2,000	5	5
23 Largemouth bass (<i>Micropterus salmoides</i>)	LC50	96	S,U	272		3,650	3,650	3,650	6	2
501 Rainbow trout (<i>Oncorhynchus mykiss</i>)	LC50	96	S,U	51		5,360	5,360	5,360	7	3

* This value not used in the derivation of the SMAV because the results from FT,M tests are a higher priority than the results from S,U tests.

178	Stonefly (<i>Tallaperla maria</i>)	LC50	96	S,U	48	5,420	5,420	5,420	8	5
27	Ramshorn snail (<i>Helisoma trivolvis</i>)	LC50	96	S,U	41	8,100	8,100	8,100	9	5

CHRONIC DATA

Species	Test type (ELS, etc.)	Duration (days)	Study Conditions (FT,M etc.)	Hardness mg/L	Chemical	MATC ug/L	SMCV ug/L	GMCV ug/L	Rank	Refer
---------	--------------------------	--------------------	------------------------------------	------------------	----------	--------------	--------------	--------------	------	-------

No useful chronic studies available.

References:

1. Geiger, D.L., L.T. Brooke, and D.J. Call. 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*). Center for Lake Superior Environmental Studies, University of Wisconsin-Superior, Superior, Wi. 5:332p.
2. Mayer, F.L., Jr., and M.R. Ellersieck. 1986. Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals. Resource Publication Number 160, U.S. Department of Interior, Fish and Wildlife Service, Washington, DC: 505p.
3. Birge, W.J., J.A., Black, S.T. Ballard, and W.E. McDonnell. 1982. Acute toxicity testing with freshwater fish. In: Aquatic Toxicity Studies of Five Priority Pollutants, Rep. No. 4398, NUS Corp, Houston, TX:47p.
4. LeBlanc, G.A. 1980. Acute Toxicity of Priority Pollutants to Water Flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.
5. Horne, J.D. and B.R. Oblad. 1983. Aquatic Toxicity Studies of Six Priority Pollutants. Rep. No. 4380, NUS Corporation, Houston Environmental Center TX:99p.

References of appropriate duration but not used:

1. 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.

Min. data req. met	Acute Factor
2	13
3	8
4	7
5	6.1
6	5.2
7	4.3

Rule 57 Aquatic Values Work Sheet

Chemical Name: 1,3-Dichloropropane
 C.A.S. #: 542-75-6

AQUATIC MAXIMUM VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met. Minimum requirements met = ____
 Minimum requirements missing for Tier I = ____
 Acute factor = ____

1. Toxicity is **not** dependent on a water characteristic

a. FAV calculation

2. Toxicity is dependent on a water characteristic

a. Slope = (Table ____)

b. FAV equation:

3. Go to C.

B. Minimum 8 species requirement is met (Tier I)

1. Toxicity is **not** dependent on a water characteristic

a. FAV calculation: Att. ____ $FAV = 162.1132 \text{ ug/L} = 160 \text{ ug/L}$

2. Toxicity is dependent on a water characteristic

a. Slope = (Table ____)

b. Ranked genus mean acute intercepts: Table

c. Final acute intercept = (Att. ____)

ln of final acute intercept =

d. FAV equation =

C. Aquatic Maximum Value (AMV) calculation:

$$AMV = 162.1132 \text{ ug/L} \div 2 = 81.1 \text{ ug/L} = 81 \text{ ug/L}$$

FINAL CHRONIC VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met (Tier II). Minimum requirements met = ____
Minimum requirements missing for Tier I = ____

1. Acute to chronic ratio

a. Number ACRs meeting minimum data requirements = 0 (Table ____)

b. Acute to chronic ratio = 18

2. Toxicity **is not** dependent on a water characteristic

$$\text{FCV} = 162.1132 \text{ } \mu\text{g/L} \div 18 = 9.01 \text{ } \mu\text{g/L} = 9.0 \text{ } \mu\text{g/L}$$

3. Toxicity **is** dependent on a water characteristic

a. Slope = (Table __)

b. Aquatic chronic intercept = (Table __)

In of aquatic chronic intercept =

c. FCV equation =

B. Minimum 8 species requirement **is** met (Tier I)

1. Toxicity **is not** dependent on a water characteristic

a. FCV = ____ (Att. ____)

2. Toxicity **is** dependent on a water characteristic

a. Slope = (Table __)

b. Ranked genus mean chronic intercepts: Table ____

c. Final chronic intercept = ____ (Att. ____); In of final chronic intercept =

d. FCV equation =