Rule 57 Aquatic Values Data Sheet

Chemical name: 1,1,1-Trichloroethane | *Developed by: D. Bush* DB | *FAV: 1,600 ug/l* | *(Tier: II)*
CAS#: 71-55-6 | *Date developed: 7/31/2012* | *AMV: 800 ug/l* | *(Tier: II)*
Literature search date: 7/23/2012 | *FCV: 89 ug/l* | *(Tier: II)*

ACUTE DATA

Species	Test Endpoint (EC or LC50)	Duration (hours)	Test Type (FT,M, etc.)	Hardness mg/L	Test Chemical	LC50/EC50 ug/L	SMAV ug/L	GMAV ug/L	Rank	Reference
Water Flea	LC50	48	S,U	128	-----	11,200	11,200	11,200	1	1
(*Daphnia magna*)	LC50	48	S,U	72	-----	>530,000 [1]				2
Fathead Minnow	LC50	96	FT,M	43.8	-----	52,900	25,668	39,032	2	3
(*Pimephales promelas*)	EC50	96	FT,M	43.8	-----	52,900 [2]				3
	LC50	96	FT,M	46.4	-----	42,300				3
	EC50	96	FT,M	46.4	-----	28,800 [2]				3
Rainbow Trout (*Oncorhynchus mykiss*)	LC50	96	S,U	128	-----	52,000	52,000	52,000	3	1
Bluegill Sunfish (*Lepomis macrochirus*)	LC50	96	S,U	128	-----	58,000	58,000	58,000	4	1

[1] Value not used to calculate SMAV, because it is an outlier to all other values for this chemical.

[2] Value used to calculate SMAV because EC50 preferred over LC50 from the same test, and FT,M test preferred over S,U test.

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	Reference

NO SUITABLE DATA WERE FOUND.

References:

1.) McCarty, W.M. 1979. Toxicity of Methylchloroform to Freshwater Organisms. Doc. # 878211064, Case # 84003A11. Unpublished report, Dow Chemical Company (page #9 of a 13-page fische).

2.) LeBlanc, G.A. 1980. Acute toxicity of priority pollutants to water flea (*Daphnia magna*). Bull. Environ. Contam. Toxicol. 24(5):684-691.

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

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: 1,1,1-Trichloroethane
C.A.S. #: 71-55-6

AQUATIC MAXIMUM VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met. Minimum requirements met = 4 (i, ii, iii, iv)
Minimum requirements missing for Tier I = 4 (v, vi, vii, viii)
Acute factor = 7

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

   a. Final Acute Value (FAV) = 11,200 ug/l / 7 = 1,600 ug/l

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. ___

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) = FAV ÷ 2 = 1,600 ug/l / 2 = 800 ug/l

FINAL CHRONIC VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met (Tier II). Minimum requirements met = 0
Minimum requirements missing for Tier I = 8

1. Acute to chronic ratio

   a. Number ACRs meeting minimum data requirements = 0

   b. Acute to chronic ratio = 18

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

   FCV = FAV ÷ ACR = 1,600 ug/l / 18 = 88.9 ug/l = 89 ug/l

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

   a. Slope = (Table __)

   b. Aquatic chronic intercept = (Table __)

   ln 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. ___); ln of final chronic intercept =

   d. FCV equation =