Rule 57 Aquatic Values Data Sheet

10/24/2005

Chemical or product name: Chlorobenzene
Manufacturer (WTAs): -----
C.A.S #: 108-90-7

Developed by: Christopher Hull *FAV*: 450 ug/l* *(Tier: II)*
Approved by: D. Bush *AMV*: 220 ug/l* *(Tier: II)*
Approval date: 3/27/07 *FCV*: 25 ug/l* *(Tier: II)*
CAS, AQUIRE, QSAR: 8/29, 30/05 *Acute CF: ----* *Chronic CF: ----*
Clearinghouse search date: 6/13/96

ACUTE DATA

Species	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 (*Daphnia magna*)	EC50	48	S,M	160	-----	3,600 [1]	3,600	3,600	1	1
	LC50	48	S,U	157-159.6	20 c	13,000				2,3,4
	LC50	48	S,U	157-159.6	20 c	10,700				2,3,4
	LC50	48	S,U	157-159.6	20 c	15,400				2,3,4
	LC50	48	S,U	159.6	24 c	20,600				2,3
	LC50	48	S,U	159.6	24 c	11,900				2,3
	LC50	48	S,U	159.6	24 c	21,300				2,3
	LC50	48	S,U	72	-----	86,000				5
Bluegill Sunfish (*Lepomis macrochirus*)	LC50	96	FT,M	31.2	-----	7,400 [2]	7,400	7,400	2	6
	LC50	96	S,U	20	B.P.=130-132	24,000				7
Water Flea (*Ceriodaphnia affinis*)	LC50	48	S,U	90.3	20 c	7,900	9,933	9,933	3	2
	LC50	48	S,U	90.3	20 c	7,900				2
	LC50	48	S,U	90.3	20 c	11,400				2
	LC50	48	S,U	90.3	24 c	11,000				2
	LC50	48	S,U	90.3	24 c	11,800				2
	LC50	48	S,U	90.3	24 c	10,400				2
Fathead Minnow (*Pimephales promelas*)	EC50	96	FT,M	43.8	-----	16,900 [2,3]	16,900	16,900	4	8
	LC50	96	FT,M	43.8	-----	16,900				8
	LC50	96	S,U	20	B.P.=130-132	29,120				7
	LC50	96	S,U	20	B.P.=130-132	33,930				7
	LC50	96	S,U	360	B.P.=130-132	33,930				7

(cont'd.)

Guppy (*Poecilia reticulata*)	LC50	96	S,U	20	B.P.=130-132	45,530	45,530	45,530	5	7
Goldfish (*Carassius auratus*)	LC50	96	S,U	20	B.P.=130-132	45,530	45,530	45,530	6	7

(cont'd.)

CHRONIC DATA

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

NO SUITABLE DATA WERE FOUND.

*Value rounded to 2 significant figures.

[1] This value only was used to calculate the SMAV because this chemical is hydrophobic and volatile, and BPJ dictates exerting preference for measured values from tests using recommended protocols for such chemicals when available. This value was measured and derived from a USEPA test using such protocols, while the others were not.

[2] Value used to calculate the SMAV because FT,M test data are preferred over data from other test types.

[3] Value used to calculate the SMAV because EC50 data are preferred over LC50 data from the same test.

Chris Hall

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: Chlorobenzene
C.A.S. #: 108-90-7

AQUATIC MAXIMUM VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met (Tier II). Minimum requirements met = 3
Minimum requirements missing for Tier I = 5 (i, v, vi, vii, viii).
Acute factor = 8

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

a. FAV calculation $FAV = \frac{\text{lowest GMAV}}{\text{Acute Factor}} = \frac{3,600 \text{ ug/l}}{8} =$ **450 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) calculation: $AMV = \frac{FAV}{2} = \frac{450 \text{ ug/l}}{2} =$ **225 ug/l.**

CHLOROBENZENE :

CHRIS HULL

FINAL CHRONIC VALUE CALCULATIONS

A. Minimum 8 species requirement is **not** met (Tier II). Minimum requirements met = 0
Minimum requirements missing for Tier I = GMCV Route : 8.
ACR Route = 3.

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

   FCV = $\frac{FAV}{ACR} = \frac{450 ug/L}{18} = 25 ug/L$

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 =

CHLOROBENZENE REFERENCES, 10/05

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*For key to abbreviations, see Appendix, attached.

APPENDIX: REFERENCE ABBREVIATIONS USED, 10/05

AMD = ambient monitoring data.
BCF = bioconcentration factor.
D = data (as a suffix to other abbreviations listed here).
DO = data only (as a suffix to other abbreviations listed here)..
GWD = groundwater data.
IITM/C = insufficient information on test methods / conditions.
ISD = *in situ* data.
LD = leachate data.
LSER = Linear Solvation Energy Relationship.
MCD = microcosm data.
MIX = mixture data (not chemical-specific test data).
MED = model ecosystem data.
MET = metabolism
MOD = model (theoretical) data / analysis.
NA = not available at this time.
ND = no data (on this chemical).
NIL = not in (MDEQ) Library.
NUE = no useable endpoint.
O = only (as a suffix to other abbreviations listed here).
PD = phytotoxicity data.
QSAR = Quantitative Structure-Activity Relationship.
RWD = receiving water data.
SD = secondary data.
SED = sediment data or testing.
SW = saltwater.
TATO = test animals too old.
TDI = test duration inappropriate.
TM/CU = test methods / conditions unacceptable.
TONNA = test organisms not North American.
TONS = test organisms not suitable.
UP = uptake data.
WET = whole-effluent testing.