Rule 57 Aquatic Values Data Sheet

4/5/2007

Chemical or product name: Naphthalene
Manufacturer (WTAs): -----
C.A.S #: 91-20-3

Developed by: Christopher Hull *FAV*: 200 ug/l* *(Tier: II)*
Approved by: D. Bush *AMV*: 100 ug/l* *(Tier: II)*
Approval date: 2/11/08 *FCV*: 11 ug/l* *(Tier: II)*
CAS, AQUIRE: 7/19/06 *Acute CF: ----* *Chronic CF: ----*
Clearinghouse search date: 6/12/96

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
Rainbow Trout	LC50	96	FT,M	535-596	-----	1,600 [1]	1,600	1,600	1	1
(*Oncorhynchus mykiss*)	LC50	96	S,U	160-190	-----	1,800				2
	LC50	96	S,U	160-190	-----	6,100				2
	LC50	96	S,U	160-190	-----	2,600				2
	LC50	96	S,U	160-190	-----	4,400				2
	LC50	96	S,U	160-190	-----	5,500				2
Water Flea	LC50	48	S,U	173	-----	8,600	8,600	6,333	2	3
(*Daphnia magna*)										
Water Flea	EC50	48	S,U	160-180	-----	4,663	4,663			4,5
(*D. pulex*)										
Fathead Minnow	LC50	96	FT,M	535-596	-----	7,900	6,656	6,656	3	1
(*Pimephales promelas*)	LC50	96	FT,M	44.9	-----	6,080				6
	LC50	96	FT,M	43.9	-----	6,140				7,8

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] Value used to calculate SMAV, because FT,M values are preferred over values from other test types.

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: NAPHTHALENE
C.A.S. #: 91-20-3

AQUATIC MAXIMUM VALUE CALCULATIONS , 4/07

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

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

a. FAV calculation FAV = $\frac{\text{lowest GMAV}}{\text{Acute Factor}} = \frac{1{,}600 \text{ ug/L}}{8} =$ **200 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 = $\frac{\text{FAV}}{2} = \frac{200 \text{ ug/L}}{2} =$ **100 ug/L**

NAPHTHALENE =

CHRIS HULL

FINAL CHRONIC VALUE CALCULATIONS, 4/07

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 (default).

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

   FCV = $\frac{FAV}{ACR} = \frac{200 \text{ ug/L}}{18} =$ 11.1111 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 =

NAPHTHALENE REFERENCES, 4/07

References Used:

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* For abbreviations used, see Appendix.

APPENDIX: REFERENCE ABBREVIATIONS USED, 7/06

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)..
EF = environmental fate.
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 (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.
NR = not reviewed.
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.
UD or UP = uptake data.
WET = whole-effluent testing.