

US EPA ARCHIVE DOCUMENT

1. Chemical: Baquacil
2. Formulation: 20% a.i.
3. Citation: Sleight III, B.H. (1980) Daphnia Magna Exposure to Vantosil IB # 1857, EPA Registration No. 10182-EUP-11, Product Name: Baquacil, Producer Name, ICI Americas, Inc, tested by EG&G Bionomices; Wareham, Mass. 02571
4. Reviewer: Curtis Laird
Fishery Biologist
EEB/HED
5. Date Reviewed Aug. 25, 1980
6. Test Type: Daphnia acute 48-hour LC50
7. Reported Results:

The 48-hour acute LC50 is 0.18 (0.12 to 0.30)
8. Reviewer's Conclusion:

The study is scientifically sound and indicates that Baquacil is highly toxic to Daphnia. The study does fulfill the requirements for an aquatic invertebrate acute 48-hour LC50.

Material/Methods

Test Procedures

The protocol generally followed the recommended EPA protocol of April 1975. For this study the concentration levels ranged from 0.024 to 0.75 ppm.

Statistical Analysis

Not given

Discussion/Results

The 48-hour LC50 value was 0.18 ppm.

Reviewer's Evaluation

A. Test Procedure

The test procedure complies with the recommended US EPA 1975 protocol.

B. Statistical Analysis

The 48-hour LC50 value was verified with Stephan's computer program. The probit method shows the LC50 value to be 0.219 ppm (0.178132 and 0.276 273)

C. Conclusion:

1. Category: Core
2. Rationale: N/A
3. Repairability: N/A

asic,old,s791c50

ADY.

00 data 7

001 data .75,.32,.24,.18,.14,.087,.024

002 data 15,15,15,15,15,15,15

003 data 15,10,7,8,2,2,0

run

DAPHNIA

highly toxic

80/08/25. 09.20.10.

BASIC PROGRAM S79LC50

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
.75	15	15	100	3.05176E-3
.32	15	10	66.6667	15.0879
.24	15	7	46.6667	50
.18	15	8	53.3333	50
.14	15	2	13.3333	.369263
.087	15	2	13.3333	.369263
.024	15	0	0	3.05176E-3

THE BINOMIAL TEST SHOWS THAT .14 AND .75 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .250768

-----RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
3	.418646	.221238	.176389	.303335

-----RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
6	.151429	1	.525389

SLOPE = 3.45595
95 PERCENT CONFIDENCE LIMITS = 2.1111 AND 4.80079

LC50 = .219311
95 PERCENT CONFIDENCE LIMITS = .178132 AND .276273

SRU 1.459 UNTS.

RUN COMPLETE.