72-3 Mysid Acute w/ TEP

DATA EVALUATION RECORD (15)

1. Chemical CGA-64250

2. Formulation: Tilt 3.6E (41.8% a.i.)

3. Citation: Honeycutt, R.C. (1983). Acute toxicity of Tilt™ 3.6E to mysid shrimp (Mysidopsis bahia). EG&G Bionomics, Marine Research Laboratory, Pensacola, Florida, Project Number H08. Acc. #072209. MRID 00132934

4. Reviewed by: Carol M. Natella
Wildlife Biologist
EEB/HED

5. Date Reviewed: March 7, 1984

6. Test Type: 96-hour LC_{50} (Mysid Shrimp)

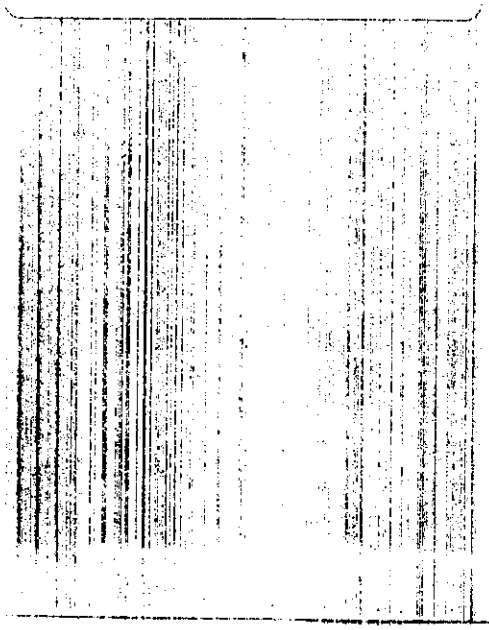
7. Reported Results: 96-hour LC_{50} = 1.42 ppm (95% C.L. 0.50-1.46)

8. Reviewer's Conclusions:

The study is scientifically sound and indicates that a 41.8% formulated product of CGA-64250 is moderately toxic to mysid shrimp. The study would fulfil a requirement for a mysid shrimp 96-hour LC_{50} performed on this formulated product only.

Invalid via audit

Test upgraded to Core for formulation DR 2/4/87



Materials/Methods

Test Procedures

Test animals: Mysid shrimp, (Mysidopsis bahia), 3 days old, born and reared at BMRL.

Test Water Quality: Natural sea water which was pumped from Big Lagoon. Before distribution into the test chambers, the water was pumped through a 5 um pore size polypropylene core filter. During testing, salinity and temperature were 17 parts per thousand and 22°C, respectively.

Test containers: Covered 1.6 l glass bowls, each of which contained a final volume of 1 l of test solution.

Exposure: 10 shrimp/bowl; 20 shrimp/concentration. A stock solution was prepared using nanograde acetone.

Date of Testing: 4/1/83-4/5/83.

Statistical Analysis

Stephan's computer program was used for statistical analysis. The moving average angle method was used to report the data.

Author's Discussion/Results

Percent mortality after 96 hours is as follows (based on measured concentrations):

ppm:	10.15	5.22	2.83	1.01	0.47	0.26	Solvent Control	Control
%:	100	100	100	15	5	0	0	0

The following LC_{50} values were calculated:

24-hour LC_{50} = 3.34 ppm (95% C.L. 2.43-4.22)
48-hour LC_{50} = 1.59 ppm (95% C.L. 0.71-2.52)
72-hour LC_{50} = 1.59 ppm (95% C.L. 0.71-2.52)
96-hour LC_{50} = 1.42 ppm (95% C.L. 0.50-1.46)

Reviewer's Evaluation

A. Test Procedure

The test procedure complies with the recommended U.S. EPA protocol, however a formulated product rather than the technical was used for testing.

B. Statistical Analysis

Statistical analyses were verified with Stephan's computer program.

C. Conclusions

1. Category: Core, for the formulated product.

2. Rationale: A formulated product was used for testing.

3. Repairability: N/A

NATELLA CGA MYSID SHRIMP

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
10.15	20	20	100	9.53674E-05
5.22	20	20	100	9.53674E-05
2.83	20	20	100	9.53674E-05
1.01	20	3	15	.128841
.47	20	1	5	2.00272E-03
.26	20	0	0	9.53674E-05

THE BINOMIAL TEST SHOWS THAT 1.01 AND 2.83 CAN BE
USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT
CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL
ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 1.45051

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
4	.0319486	1.23553	1.01368	1.51548

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
7	.157912	1	.157024

SLOPE = 5.39381
95 PERCENT CONFIDENCE LIMITS = 3.25041 AND 7.5372

LC50 = 1.3135
95 PERCENT CONFIDENCE LIMITS = 1.05837 AND 1.67716

LC10 = .763793
95 PERCENT CONFIDENCE LIMITS = .510003 AND .960336

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