122801

00056081

DATA EVALUATION RECORD

1. CHEMICAL: Fenarimol

2. FORMULATION: Technical - 100%

3. CITATION: Bentley, R. (1975) Acute toxicity of EL-222 to Bluegill and Rainbow Trout; received 10/19/81 under 1471-EUP-75; unpublished report prepared by Bionomics, Inc for Lilly Research Laboratories, Greenfield, Indiana (in Acc #070429)

4. REVIEWED BY: Stephen M. Hopkins
Plant Physiologist
EEB/HED

5. DATE REVIEWED: 12/3/81

6. TEST TYPE: Fish Acute LC_{50} - Bluegill Sunfish

7. REPORTED RESULTS:

The testing laboratory demonstrated that the 96hr LC_{50} of fenarimol to the bluegill sunfish is 0.9 ppm, with 95% confidence limits of 0.7-1.1 ppm.

8. REVEIWER'S CONCLUSIONS:

This study is scientifically sound, and meets EPA requirements for a fish acute LC_{50} study using a warm-water fish.

2052897

Testing Laboratory Report

A. Test Procedure

The test procedure generally followed EPA proposed guidelines of July 10, 1978. Some specifics of note include:

Weight of fish	-	1 g ave
Number of fish	-	10 per test vessel
Test vessel size	-	5 gallon glass vessels
Temperature	-	21 ± 1°C
Loading Factor	-	Assumed to be about 0.5 g/l
Dilution water	-	reconstituted deionized water
Treatment levels	-	0.49, 0.75, 1.2, 1.8, 2.8, 3.2, 5.6 and 7.5 ppm plus untreated and acetone controls
Test initiation	-	not given, presumed to be in 1975

The test solutions were continuously aerated

B. Statistical Analysis

Mortality was analyzed by the probit method.

C. Results

Concentrations	Mortality at 96 hrs
7.5 ppm	100%
5.6	100
3.2	100
2.8	100
1.8	100
1.2	60
0.75	50
0.49	0
Controls	0

The author calculated that the 96hr LC_{50} of the test material to the bluegill sunfish is 0.91 ppm, with 95% confidence limits of a 72-1.14 ppm.

Reviewer's Evaluation

A. Test Procedure

The procedure generally complied with the 1978 EPA guidelines.

B. Statistical Analysis

Mortality was analyzed by an the probit method, the results of which agreed with the findings of the testing laboratory.

C. Results/Discussion

The testing laboratory demonstrated that the 96hr LC_{50} of fenarimol to the bluegill sunfish is 0.9 ppm, with 95% confidence limits of 0.7-1.1 ppm.

D. Conlcusion

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

STEVE FENARIMOL BLUEGILL STATIC ACUTE LC50 ITEM 8

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
7.5	10	10	100	0.09765625
5.6	10	10	100	0.09765625
3.2	10	10	100	0.09765625
2.8	10	10	100	0.09765625
1.8	10	10	100	0.09765625
1.2	10	6	60	37.69531
0.75	10	5	50	62.30469
0.49	10	0	0	0.09765625

THE BINOMIAL TEST SHOWS THAT 0.49 AND 1.8 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 0.75

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
3	0.1140245	0.9170837	0.7658805	1.088778

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
9	0.2101741	1	0.6479444

SLOPE = 5.981437
95 PERCENT CONFIDENCE LIMITS = 3.239262 AND 8.723612

LC50 = 0.9065227
95 PERCENT CONFIDENCE LIMITS = 0.7247718 AND 1.116534

LC10 = 0.5559748
95 PERCENT CONFIDENCE LIMITS = 0.3346721 AND 0.7011438

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