122801

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Bentley, R. (1975) Acute toxicity of EL-222 to Bluegill and Rainbow Trout; received 10/19/81 under 1471-EUP-75; unpublished report prepared by Bionomics, Inc for Lilly Research Laboratories, Greenfield, Indiana (in Acc #070429)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

7. REPORTED RESULTS:

The testing laboratory demonstrated that the 96hr LC_{50} of fenarimol to the rainbow trout is 2.1 ppm, with 95% confidence limits of 1.8-2.4 ppm.

8. REVEIWER'S CONCLUSIONS:

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

2052896

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	-	1.4 g ave
Number of fish	-	10 per test vessel
Test vessel size	-	5 gallon glass vessels
Temperature	-	11 ± 1°C
Loading Factor	-	Assumed to be about 0.7 g/l
Dilution water	-	reconstituted deionized water
Treatment levels	-	1.4, 1.8, 2.4, 3.7, 4.9, and 7.5 ppm plus untreated and acetone controls
Test initiation	-	not given, presumed to be in 1975

B. Statistical Analysis

Mortality was analyzed by the probit method.

C. Results

Concentrations	Mortality at 96 hrs
7.5 ppm	100%
4.9	100
3.7	100
2.4	100
1.8	0
1.4	0
Controls	0

The author calculated that the 96hr LC_{50} of the test material to the rainbow trout is between 1.8 and 2.4 ppm. The lack of partial mortalities precluded greater precision.

Reviewer's Evaluation

A. Test Procedure

The procedure generally complied with the 1978 EPA guidelines.

B. Statistical Analysis

Mortality was analyzed by an the binomial method, which enabled the determination of an LC_{50} of 2.1 ppm with 95% confidence limits of 1.8-2.4 ppm.

C. Results/Discussion

Although the author did not actually calculate an LC_{50}, the EEB calculation is adequate, since it is closely bracketed by dose levels. The testing laboratory demonstrated that the 96hr LC_{50} of fenarimol to the rainbow trout is 2.1 ppm, with 95% confidence limits of 1.8-2.4 ppm.

D. Conlcusion

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

STEVE FENARIMOL RAINBOW [redacted] 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
4.9	10	10	100	0.09765625
3.7	10	10	100	0.09765625
2.4	10	10	100	0.09765625
1.8	10	0	0	0.09765625
1.4	10	0	0	0.09765625

THE BINOMIAL TEST SHOWS THAT 1.8 AND 2.4 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 2.078461

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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