9-25-81

DATA EVALUATION RECORD

1. CHEMICAL: Cuprous oxide plus triphenyltin hydroxide

2. FORMULATION: Rabamarine, which is a mixture of 2 formulated products and contains 36.5% cuprous oxide and 8.7% triphenyltin hydroxide.

3. CITATION: Surprenant, D. (1981) Acute Toxicity of Kansai Rabamarine to the Water Flea; received 7/21/81 under 46197-1; unpublished report prepared by E G & G Bionomics for M & T Chemicals, Inc, Rahway, New Jersey (in Acc # 245649).

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

5. DATE REVIEWED: 9/25/81

6. TEST TYPE: Aquatic Invertebrate acute LC_{50} -- Daphnia magna

7. REPORTED RESULTS: The testing laboratory demonstrated that the 48hr LC_{50} of Rabamarine to Daphni is 130 ppb product, with 95% confidence limits of 120-160 ppb. This 130 ppb of product contains approximately 47 ppb of cuprous oxide and 11 ppb of triphenyltin hydroxide.

8. REVIEWER'S CONCLUSIONS: This study is scientifically sound, and meet EPA-requirements for an aquatic invertebrate acute LC_{50} study using the formulated product.

Testing Laboratory Report

A. Test Procedure

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

Number of daphnids - 5 1st daphnids/beaker, 3 beakers per treatment level
Temperature - 22 ± 1°C
Dilution water - Reconstituted deionized water
Treatment levels - 21, 34, 59, 100, 170, and 280 ppb plus untreated and N,N-dimethylformamide controls
Test initiation - February 10, 1981
Test material - The test material was a mixture containing:
16 parts of solution A (57% cuprous oxide), and
9 parts of solution B (23.8% triphenyltin hydroxide).
The final mixture contained 36.5% cuprous oxide and 8.7% triphenyltin hydroxide.

B. Statistical Analysis

Mortality was analyzed by the moving average angle method.

C. Results

Concentration	Mortality at 96hrs
280 ppb product	100%
170	87
100	7
59	0
34	0
21	0
controls	7

The author calculated that the 48hr LC_{50} of Rabamarine to Daphnia is 130 ppb product, with 95% confidence limits of 120-160 ppb. 59 ppb was a no-effect level.

Reviewer's Evaluation

A. Test Procedure

The procedure generally complied with the 1978 EPA guidelines.

B. Statistical Analysis

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

C. Results/Discussion

The testing laboratory demonstrated that the 48hr LC_{50} of Rabamarine to Daphnia is 130 ppb product, with 95% confidence limits of 120-160 ppb. This 130 ppb of product contains approximately 47 ppb of cuprous oxide and 11 ppb of triphenyltin hydroxide.

D. Conclusion

1. Category: Core for formulated product
2. Rationale: NA
3. Repairability: NA