9-30-85

DATA EVALUATION RECORD

1. Chemical: Methamidophos (Monitor®)
O,S-Dimethyl phosphoramidothioate

2. Test Material: Methamidophos: Technical

3. Study Type: Static, 96-hour LC_{50}: Mysid shrimp (*Mysidopsis bahia*).

4. Study ID: Biospherics, Inc. (1983) The Acute Toxicity of Methamidophos (Technical) to *Mysidopsis bahia* (Bay Shrimp). Submitted by Mobay Chemical Corp., Stillwell, KS, December 1983. EPA Registration No. 239-2452; EPA Accession No. 258108.

5. Reviewed by: Margaret Rostker
EEB/HED
Signature: M. Rostker
Date: 18 Sept '85

6. Approved by: Harry Craven
EEB/HED
Signature: Henry Q. Craven
Date: 9/30/85

7. Conclusions:

The study reports a static, 96-hour LC_{50} = 1054.0 ppb (= 1.1 ppm) for mysid shrimp exposed to technical methamidophos. The NOEL = 756 ppb (= 0.8 ppm). The study fulfills guideline requirements for an acute toxicity test with technical product for an estuarine/marine invertebrate.

8. Recommendations:

N/A

9. Background:

Required test under Registration Standard.

10. Discussion of Individual Test:

N/A

11. Materials and Methods:

a. Test Animals: *Mysidopsis bahia* (Bay shrimp) from Sea Plantations, Inc., Salem, MA. Age at test initiation: $\leq$ 5 days.

Test System: Static; 250 ml beakers with 200 ml test solution; 96-hour test duration.

b. Dose: Static bioassay using measured concentrations; no solvent used.

c. Design: Five test concentrations and one dilution control, each with four replicates. Five shrimp/replicate = 20 shrimp/test concentration and = 20 shrimp/control. Test concentrations (measured concentrations): 172, 272, 460, 756, 1160 ppb.

d. Statistics: Binomial probability method; Stephan, 1979. All calculations based on average measured concentrations of test material.

12. Reported Results:

The study authors report a 96-hour LC_{50} = 1054 ppb (95% CI: 756, + infinity ppb). NOEL = 756 ppb.

13. Study Authors' Conclusions/QA Measures:

96-hour LC_{50} (95% CI) = 1054 ppb (756, + infinity ppb).

Certification of QA inspection provided.

14. Reviewer's Discussion and Interpretation of Study:

a. Test Procedures: The procedures were in general conformance with guidelines.

b. Statistical Analysis: The proper method was used.

c. Discussion/Results: The study LC_{50} = 1054.0 ppb with 95 percent CI = 756 ppb and infinity. The NOEL = 756 ppb.

d. Adequacy of Study:

1. Classification: CORE
2. Rationale: Guidelines
3. Repairability: N/A

12. Completion of One-liner for Study:

September 9, 1985

16. CBI Appendix:

N/A

EEB check on reported results

KOSTKER MONITOR 96-HOUR SHRIMP

****

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
1160	20	14	70	5.76592
756	20	0	0	9.53674E-05
460	20	0	0	9.53674E-05
272	20	0	0	9.53674E-05
172	20	0	0	9.53674E-05

THE BINOMIAL TEST SHOWS THAT 756 AND +INFINITY 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 1053.63

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.

****