Data Evaluation Record

2/13/1986

1. Chemical: Affirm

   Sha.No: 122804

2. Test Material: MK-936 technical, 91% a.i.

3. Study Type: Shrimp 96-hr LC_{50}

   Species Tested: Mysid Shrimp (Mysidopsis bahia)

4. Study I.D.:

   Author: Forbis, Alan D., and David Burgess

   Title: Acute Toxicity of MK-936 Technical to Mysid Shrimp (Mysidopsis bahia)

   Laboratory: Analytical Bio—chemistry Laboratories, Inc.

   Study No: 33624

   Study Date: September, 1985

   Study submitted to EPA by: Merck Sharp and Dohme Research Laboratories

   Acc. No: 259623

5. Reviewed By:

   Daniel D. Rieder
   Wildlife Biologist
   EEB/HED

   Signature: Daniel Rieder

   Date: 1/21/86

6. Approved By:

   Norm J. Cook
   Supervisory Biologist
   EEB/HED

   Signature: Norman J. Cook

   Date: 2-13-86

7. Conclusions: This study is scientifically sound.
   96-hour LC_{50} = 0.21 ppb
   95% Confidence Limits = 0.10-0.32 ppb.
   This study will fulfill the guideline requirement for a shrimp acute 96-hour LC_{50}

8. Recommendations: N/A

9. Background: This study was provided to support registration.

10. Individual Studies: N/A

11. Methods and Materials:

A. Test Material: MK-936 Technical Affirm
Percent active ingredient: 91%

B. Test Organisms: Mysid Shrimp (Mysidopsis bahia)

Source: Env. Sci. and Eng., Inc., Gainesville, FL.
No.level: 10 Organisms per container: 10

C. Test Containers: Glass

Size: 400 ml

D. Test Conditions: Static, 96-hrs shrimp were fed c.a. 2 ml brine shrimp per day during test.

Temperature: 22 °C
Solvent: acetone
Way test was begun: shrimp added within 30 minutes after test material
Controls: Untreated and solvent
Test solution: Prepared by adding synthetic seawater salts to aged well water

E. Statistics: Stephans program

12. Reported Results:

96-hour LC_{50} = 0.21 ppm 95% C.L. = 0.1-0.32 ppb

CONCENTRATION PPB Nominal	MORTALITY				CONDITIONS		SALINITY
	24Hrs	48Hrs	72Hrs	96Hrs	DO	pH	°/oo
Control	0	0	0	0	5.6	7.6	23
Solvent Control	0	0	0	0	5.6	7.7	23
0.10	0	0	0	0	5.7	7.8	23
0.18	0	0	0	3	5.6	7.8	22
0.32	0	1	3	10	5.7	7.9	24
0.57	2	3	10	10	5.9	8.0	23
1.00	7	10	10	10	5.9	8.1	24

13. Study Authors Conclusions:

	24 Hrs	48 Hrs	96 Hrs
LC50 (ppb)=	0.81	0.46	0.21

NOEL = 0.1 ppb

14. Reviewers Discussion and Interpretation of the Study:

    A. Test Procedures: The test procedure was adequate.

    B. Statistical Analysis: The statistical analysis results match the data.

    C. Discussion/Results: This test shows that MK-936 is very highly toxic to shrimp.

    D. Adequacy of the Study: This study fulfills the guideline requirements for an estuarine aquatic invertebrate LC_{50}

15. Completion of One Liner for Study: One-liner completed

16. CBI Appendix: N/A