1-24-84

DATA EVALUATION RECORD

1. Chemical: EL-107

2. Formulation: 92.4% active ingredient

3. Citation: Lake, S.G., P.C. Francis and D.W. Grothe. December 1982. The acute toxicity of EL-107 (compound 121607) to Daphnia magna in a static test system. Study No. C02182. Prepared by Lilly Research Laboratories, Greenfield, Indiana. Submitted to Elanco Chemical Co. Indianapolis, Indiana. EPA Accession No. 250793.

4. Reviewed by: Elizabeth E. Zucker
Wildlife Biologist
EEB/HED

5. Date Reviewed: January 24, 1984

6. Test Type: Acute toxicity to an aquatic invertebrate
A. Test Species: Daphnia magna

7. Reported Results:

The 48-hour no-observed effect level of EL-107 for Daphnia magna was $\geq$ 1.3 mg/l.

8. Reviewer's Conclusions

This study is scientifically sound but may not be used to fulfill the guideline requirement for a 48 our EC_{50} study on an aquatic invertebrate using the technical product. This is mainly because the test material was insoluble in the diluent, thus test organisms were exposed to actual concentrations of EL-107 (1.0 mg/l) that were significantly less than nominal concentrations (100 mg/l).

Materials/Methods
Test Procedures

Instars (less than 24 hours old) were obtained from an in-house culture and exposed to nominal concentrations of 0 and 100 mg/l of EL-107 for 48 hours.

Diluent was well-water which had the following quality characteristics: total hardness - 120 mg/l as $CaCO_3$; total alkality - 145 mg/l as $CaCO_3$; and conductivity of 275 umho/cm. Tests were performed in 250 mg glass beakers containing 200 mls diluent. There were 10 daphnids per vessel with 3 vessels per treatment group.

D.O. and pH of each test solution were measured at the beginning and end of the study. Samples of the solutions were collected at the test's initiation and termination. Samples were analyzed for EL-107. Temperature was maintained at 20°C $\pm$ 1°C.

Statistical Analysis

There were no mortalities thus analysis was not necessary.

Results/Discussion

Daphnids exposed to control and treatment solutions showed no signs of toxicity.

pH of the diluent ranged between 8.3 to 8.4. D.O concentrations averaged 9.3 mg/l and remained above 98% saturation in all solutions.

Actual concentrations of EL-107 were 1.2 to 1.3 mg/l.

Reviewer's Evaluation

A. Test Procedures

This study was performed under conditions that complied substantially with current guidelines with the following notable exceptions:

1. The test material was insoluble in the diluent thus actual concentrations of the toxicant were significantly less then nominal concentrations.

2. Water was harder than recommended

3. pH was higher than recommended.

4. The assayed diluent of the control vessel contained 0.24 ml of toxicant.

B. Statistical Analysis

There were no mortalities thus analysis was not necessary.

C. Results/Discussion

The results of this study can only be used to support registrations where expected aquatic environmental concentrations of the active ingredient approach 1.0 mg/l.

The authors felt that the 0.24 mg/l of EL-107 found in the final control sample was probably form contamination during sample collection and did not represent exposure to control animals.

D. Conclusion

1. Category: Supplemental

2. Rationale: The material was insoluble in the diluent thus daphnids were exposed to actual concentrations of EL-107 (1.0 mg/l) significantly less than nominal concentrations (100 mg/l).

3. Repairability: None