

DATA EVALUATION RECORD

- 1. Chemical: EL-107
- 2. Formulation: 92.4% active ingredient
- 3. Citation: Lake, S.G., D.W. Grothe and P.C. Frances. December 1982. The acute toxicity of EL-107 (compound 121607) to Bluegill (Lepomis macrochirus) in a static test system. Study F07382. 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 25, 1984
- 6. Test Type: Acute toxicity to a warmwater fish species.
A. Test Species: Bluegill sunfish (Lepomis macrochirus).

7. Reported Results:

The 96-hour no-observed effect level of EL-107 was \geq 1.1 mg/l.

8. Reviewer's Conclusions

This study is scientifically sound, but may not be used to fulfill the guideline requirement for a 96-hour LC₅₀ study on a warmwater fish species. This is because the test material was insoluble in the diluent and the system was aerated thus fish 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

Juvenile bluegills were obtained from Aquatic Control of Seymour, IN. and held in the laboratory for at least 30 weeks prior to testing. For the definitive test, three replicate chambers containing a total of thirty fish were used at 2 treatment levels of 0 and 100 mg/l EL-107. Other test specifics of note include:

Fish size: Weights ranged from 0.33 to 0.83 g
Mean total length - 28.8 ± 1.8 mm

Loading - 0.38 g/l

Test vessels - 18.9 liter glass jars containing 15 liters solution

Diluent - Hardness, 120 mg/l (CaCO₃)

Alkalinity, 145 mg/l (CaCO₃)

Conductivity, 275 umhos/cm

Water was continuously aerated

Fish were not fed prior to testing

D.O, pH and temperature was measured daily in each test solution

A 200 ml water sample was collected from each vessel at the test initiation and termination. Samples were analyzed for EL-107.

Fish were observed daily for signs of toxicity.

Statistical Analysis

No mortalities occurred so analysis was not conducted.

Results/Discussion

There were no physical signs of toxicity in control or treated fish.

Temperature of the test solution was $21.0 \pm 0.3^\circ\text{C}$ and pH ranged from 7.9 to 8.6. Dissolved oxygen averaged 9.3 mg/l.

Because of the low water solubility of EL-107, actual concentrations in the 100 mg/l treatment ranged from 0.93 to 1.1 mg/l.

Reviewr's Evaluation

A. Test Procedures

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

1. Because of the low solubility of the toxicant and/or aeration of the test system, actual concentrations of EL-107 were significantly lower than nominal concentrations.
2. Temperature was not measured continuously throughout the study.

B. Statistical Analysis

There were no mortalities, thus analysis was not performed.

C. Results/Discussion

The results of this study can only support registrations of EL-107 where expected aquatic environmental concentrations approach 1 ppm (average test concentrations) or lower.

D. Conclusions

1. Category: Supplemental
2. Rationale: Due to insolubility of test material and/or aeration of the test system, fish were exposed to actual concentrations of the toxicant (1.0 mg/l) that were significantly lower than nominal concentrations (100 mg/l).
3. Repairability: None