

1. CHEMICAL: EL-107
2. FORMULATION: Technical
3. CITATION: Lake, S.G., P.C. Francis, and D.W. Grothe. 1982. The toxicity of soil-incorporated EL-107 (Compound 121607) to earthworms (Lumbricus terrestris) in a 14-day test. In EPA Acc. No. 250793. Subm. by Eli Lilly and Company June 10, 1983.
4. REVIEWER: Allen W. Vaughan
Entomologist
EEB/HED
5. DATE REVIEWED: January 30, 1984
6. TEST TYPE: Toxicity to earthworms
 - A. Test species: Lumbricus terrestris
7. REPORTED RESULTS: No symptoms of earthworm toxicity were detected at any treatment level (10 and 100 mg/kg). Therefore, the no-observed-effect level of soil-incorporated EL-107 was greater than 100 mg/kg.
8. REVIEWER'S CONCLUSIONS: This study is scientifically sound, and shows the no-observed-effect level of soil-incorporated EL-107 to be greater than 100 mg/kg for earthworms.

Materials and Methods

Test Procedures

Earthworms were reared in glass aquaria containing cellulose soil worm bedding. The worms were held at 13°C and a photoperiod of 16 hr light/8 hr dark. Rabbit feces, dried and sterilized, were mixed with the test soil to provide food for the earthworms.

Each treatment replicate contained 1000 gm of test soil which was prepared by mixing 850 gm of loamy sand soil, 50 gm of rabbit feces, and 100 ml of deionized water. A 100-ml aqueous solution of EL-107 was added to each 1000-gm portion of test soil to obtain three replicates at soil concentrations of 10 and 100 mg/kg. Soil aliquots which served as controls received 100 ml of deionized water. Treated and control soils were mechanically mixed to promote homogeneous distribution of the test chemical and food source throughout the test medium.

Earthworms selected for testing appeared to behave normally and to be in good physical condition. Each test chamber housed five animals and was covered with cheesecloth to reduce water loss and retain the worms. Test organisms were randomly assigned to treatments. The test was conducted at $12 \pm 2^\circ\text{C}$.

On days 7 and 14, all test animals were individually weighed and examined for overt symptoms of toxicity.

Statistical Analysis

Dunnett's t-test was used to evaluate differences in mean body weight between treated and control populations. All statistical testing was accomplished at an alpha level of 0.05.

Discussion/Results

Earthworms exposed to soil-incorporated EL-107 at concentrations of 10 and 100 mg/kg for 14 days did not show any symptoms of toxicity or significant difference in body weight relative to control animals.

Reviewer's Evaluation

A. Test Procedures

Procedures were sound.

B. Statistical Analysis

Analysis as performed by the authors was assumed to be valid. No validation was performed by EEB.

C. Discussion/Results

This study is scientifically sound.

EL-107 - Toxicity to earthworms

Data submitted by the registrant on toxicity to earthworms indicate that the no-observed-effect level of soil-incorporated EL-107 is greater than 100 mg/kg.