408357-02
MRID No.

041402
Shaughnessy No.

Data Evaluation Record

MOLINATE, TG ORDRAM®

Coldwater Fish Acute Toxicity Test
Guideline Ref. No. 72-1(c).

1. TEST MATERIAL- Molinate, TG

2. STUDY MATERIAL:

S-Ethyl hexahydro-1H-azepine-1-carbothioate 97.6% W/W.

3. STUDY TYPE:

Freshwater Fish Acute Toxicity.

Species tested- Rainbow trout *Salmo gairdneri.*

4. STUDY IDENTIFICATION:

Miller, J.L. 1988. 96-hour aquatic toxicity study of Ordram® technical in Rainbow trout (*Salmo gairdneri*). ICI Americas, Richmond Aquatic Toxicology Laboratory, Richmond, CA 94804. Submitted by ICI Americas, Inc., Agricultural Products, Wilmington, Delaware 19897. Report No. T-13383, RR90-270B.

5. REVIEWED BY:

James J. Goodyear
Biologist, Section 1
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

Signature: James Goodyear
Date: April 11, 1991

6. APPROVED BY:

Leslie W. Touart
Acting Head, Section 1
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

Signature: L W T
Date: 4/12/91

7. CONCLUSIONS:

The study *cannot* be used to fulfil the requirements for a coldwater fish toxicity test.

8. RECOMMENDATIONS - N/A.

9. BACKGROUND:

The registrant submitted the study as a "Previously submitted, acceptable study." EEB has no record of having reviewed or even received the study. The records of the Registration Division confirm that the study has never been reviewed.

10. DISCUSSION OF INDIVIDUAL TEST - N/A.

11. MATERIALS AND METHODS:

A. TEST CONDITIONS:

Animals - Rainbow trout (*Salmo gairdneri*), average weight of 1.1 mg.

Containers - 50 l stainless steel tanks (30 x 33 x 44cm).

Solution - Well water, "The test material was diluted with acetone at 1:5 to achieve the desired delivery volume."

Temperature - 12.5 to 12.6° C

Duration - 96 hours

pH - 7.1 to 7.2 pH units

Dissolved O^2 - 7.9 to 8.2 mg/l (≈70% of saturation).

Hardness - 300 mg $CaCO_3$/l

Photoperiod - 8 hours of light and 16 hours of dark.

B. Dose:

There were five nominal levels: 1.5, 3.4, 8, 18, and 40 mg/l plus one water control. The control level is listed as "0.0" mg/l. Measured levels were 1.5, 2.9, 7.2, 17.0, and 40.0 mg/l with a control of "<0.1" mg/l. No solvent control was run.

C. DESIGN:

20 fish per group, 50 l of water in a 50 l tank, flow-through complete replacement of the water 1.5 times per day, no aeration, no feeding.

D. STATISTICS- Stephan, 1977.

12. REPORTED RESULTS:

LC_{50} = 13.0 (CI 10.6 - 15.7) mg/l. NOEL = ≥2.9 mg/l

13. STUDY AUTHORS' CONCLUSIONS/QA MEASURES:

"The 96 hour LC_{50} with 95% confidence limits was 13.0 (10.6-15.7) mg/l."

"A Quality Assurance review of this report was conducted on 9-29-88 and it is confirmed that the reported results accurately reflect the data collected for the study."

14. REVIEWER'S DISCUSSION AND CONCLUSIONS:

A. TEST PROCEDURES:

The stainless steel tanks (33 x 44 x 30cm) have a volume of 43 liters. They would not hold the claimed volume of water (50 liters). Since the concentrations were measured the LC_{50} can be calculated. The lowest concentrations measured must be used used.

There was no solvent control containing an amount of acetone equal to the amount used in the highest concentration replicate, only a control with >0.1 mg/l Molinate.

B. STATISTICAL ANALYSIS:

EEB recalculated the LC_{50} using Stephan's computer program (1978) and the lowest measured concentrations. The LC_{50} = 12.1 mg/l (CI 6.5 to 17mg/l).

C. DISCUSSION/RESULTS:

This study was submitted as a previously accepted study for FIFRA '88. Neither EEB or the Registration Division have any record of its having been reviewed.

There was no solvent control, therefore, the study cannot be interpreted and compared to studies done on other chemicals.

D. ADEQUACY OF THE STUDY:

Classification - Invalid

Rational - The study had no solvent control.

Repair - None.

15. COMPLETION OF ONE-LINER FOR STUDY: No.

16. CBI APPENDIX - N/A.

LITERATURE CITED

Stephan, C.E. 1977. Methods for calculating an LC_{50}. in, Aquatic Toxicology and Hazard Evaluation. ASTM STP 634. F.L. Mayer and J.L. Hamelink, Eds. American Society for Testing and Materials. pp. 65-84.