

US EPA ARCHIVE DOCUMENT

Reviewed 1/18/84

Data Evaluation Record

1. CHEMICAL: MON-097 (acetochlor)
2. FORMULATION: Technical; 97.7% active ingredient
3. CITATION: Altshul, L. 1983. The Toxicity of MON 097 to Rainbow Trout Embryos and Larvae, Study No.: BN-82-276, Project No.: BW-83-4-1390, EG&G Bionomics Aquatic Toxicology Laboratory, Wareham, MA. 02571. Submitted by Monsanto Agricultural Products Co., St. Louis, Missouri, Submission Date 9-22-83, Acc. No. 071973
4. REVIEWER: Dennis J. McLane  
Wildlife Biologist  
EEB/HED
5. DATE REVIEWED: January 18, 1984
6. TEST TYPE: Freshwater Fish Embryo-Larvae Study with Rainbow Trout (Salmo gairdneri)
7. REPORTED RESULTS: No treatment-related effects were observed for viability and hatchability for the eggs and survival, weight and length for the fry. Fry exposed to 0.45 mg/l MON 097 appeared lethargic during the first 14 days of exposure; however, beyond 14 days after hatching, fry appeared normal. No physical or behavioral changes were noted at the remaining concentrations.

Water quality measurements were within acceptable limits.

8. REVIEWER'S CONCLUSIONS: This study is scientifically sound and meets the guideline requirements. The MATC is estimated to be > 0.45 mg/l for rainbow trout embryos and larvae. Therefore acetochlor is in the highly toxic category.

## METHODS AND MATERIALS

### 1. Test Procedure

See the attachment labeled SECTION II MATERIALS AND METHODS from EG&G Bionomics text of the study.

### 2. Statistical Analysis

The following is a description of the statistical analysis:

"Percentage viability and hatch of embryos and survival, length and weight of larvae after 61 days exposure, were subjected to analysis of variance (Steel and Torrie, 1960). Data for percentage hatch and percentage survival were transformed to arc sin percentage prior to analysis. If treatment effects were directed, the means of these parameters were compared to those from the control and solvent control using Dunnett's procedure (Steel and Torrie, 1960). When a treatment mean was significantly different from the control means ( $P = 0.05$ ), that treatment was considered to be an effect level. Based on these data, the MATC of MON 097 to rainbow trout embryos and larvae was estimated."

## DISCUSSION/RESULTS

See the attachment labeled SECTION IV, DISCUSSION AND Table G. from EG&G Bionomics text of the study.

## REVIEWER'S EVALUATION

### A. Test Procedures

No outstanding changes from acceptable protocol were found.

### B. Statistical Analysis

In order to verify the reported results an ANOVA was performed on the viability, hatchability, survival length and weight values provided in Table 6 (see attached). Also a arc-sin transformation and ANOVA were performed on viability, hatchability and survival values. The verified study results indicated no significant statistical differences.

### C. Discussion/Results

Since the study appears to be scientifically sound and meets the guideline requirements, EEB accepts the MATC value of  $> .45$  mg/l which slightly exceeds the LC50 for rainbow trout.

### D. Conclusion

1. Category - Core
2. Rationale - Meets the guideline requirements
3. Repairability - N/A

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ACETOCHLOR

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