

US EPA ARCHIVE DOCUMENT

UPDATED

DATA EVALUATION RECORD

1. **CHEMICAL:** Molinate.
Shaughnessey No. 041402.
2. **TEST MATERIAL:** Ordram:Propanil 3:3E; Lot No. NDH 3031; a dark-brown, viscous, li formulated product; purity not specified.
3. **STUDY TYPE:** Freshwater Fish Static Acute Toxicity Test. Species Tested: Rainbow Salmo gairdneri).
4. **CITATION:** Bowman, J.H. 1986. Acute Toxicity of Ordram: Propanil 3:3E to Rainbo Salmo gairdneri). Laboratory Project ID No. 35225. Prepared by Analytical Laboratories, Inc., Columbia, MO. Submitted by Stauffer Chemical Company, Ric EPA MRID No. 416136-04.
5. **REVIEWED BY:**

Mark A. Mossler, M.S. **Signature:**
Associate Scientist II
KBN Engineering and **Date:**
Applied Sciences, Inc.
6. **APPROVED BY:**

Louis M. Rifici, M.S. **Signature:**
Associate Scientist II
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Applied Sciences, Inc.

Henry T. Craven, M.S. **Signature:**
Supervisor, EEB/HED
USEPA **Date:**
7. **CONCLUSIONS:** This study is scientifically sound and satisfies the guideline requ static acute toxicity test for freshwater fish. The 96-hour LC₅₀ of Ordram: rainbow trout was 8.3 mg/L (based on nominal concentration of formulated produc Ordram:Propanil 3:3E is classified as moderately toxic to rainbow trout. The NO lack of mortality and sublethal effects, was estimated as 1.0 mg/L, base concentration of formulated product.
8. **RECOMMENDATIONS:** N/A.
9. **BACKGROUND:**
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A.
11. **MATERIALS AND METHODS:**
 - A. **Test Animals:** Rainbow trout (Salmo gairdneri) were obtained from a commerc supplier in Lewistown, Montana. The fish were maintained in culture tanks daylight photoperiod for at least 2 weeks prior to testing. The fi

commercially available fish food daily with occasional supplements of n brine shrimp. The condition of the fish was monitored daily and recor treatments were kept.

Mean weight and standard length of the control fish were 0.84 (± 0.22) g mm. Biomass loading rate in the control was 0.56 g/L.

- B. **Test System:** Vessels used in the test were 5-gallon glass containers fille soft reconstituted water (control) or test solution. The reconstituted w to yield a total hardness of 40-48 mg/L as CaCO_3 , a total alkalinity of 20- CaCO_3 , and an initial pH of 7.2-7.6. The vessels were kept in a water bath maintain $12^\circ \pm 1^\circ \text{C}$. The test concentrations were prepared by adding a amounts of a stock solution (prepared in deionized water) directly to the t

The rainbow trout were not fed during the test.

- C. **Dosage:** Ninety-six-hour static test. Based on a preliminary test, seven n concentrations (0.56, 1.0, 1.8, 3.2, 5.6, 10, and 18 mg/L) and a diluti were used. The concentrations made were based on total product.

- D. **Design:** Ten fish were randomly added to each test chamber within 30 minute solution preparation. All chambers were observed once every 24 hours for sublethal effects. Dead fish were removed from the chambers at each period.

Temperature, pH, and dissolved oxygen (DO) were measured in the dilut control, low, medium, and high test concentrations at 0, 48, and 96 hours.

- E. **Statistics:** The 96-hour median lethal concentration (LC_{50}) and associated confidence interval (C.I.) was calculated using the binomial method.

12. **REPORTED RESULTS:** The mortality responses of the rainbow trout are given in Tabl (attached). The 96-hour LC_{50} , based on nominal concentration of formulated pro mg/L (95% CI = 5.6-18 mg/L). Sublethal effects were observed in all concentrati 1.0 mg/L, therefore, the no-observed-effect concentration (NOEC) was 1.0 mg/L aft

At test initiation, the DO of the control, low, and high concentrations were 86-88% of saturation. After 96 hours, oxygen saturation in the control, 0.56, test chambers ranged from 59 to 64%. The pH values ranged from 6.7 to 7.5 (Tabl The temperature was 12° - 13°C throughout the test. The alkalinity and hardness o was 26-28 and 54-58 mg/L as CaCO_3 , respectively. Conductivity was 160 ?Mhos/cm.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**

The author presented no conclusions.

Quality Assurance and Good Laboratory Compliance Statements were included in indicating that the study was conducted in accordance with FIFRA Good Laborat Standards set forth in 40 CFR Part 160.

14. **REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:**

- A. **Test Procedure:** The test procedures were generally in accordance wit protocols recommended by the guidelines, but deviated from the SEP as

The fish were lab raised, but it appears that they were acclimate dilution water for 48 hours. The SEP recommends that fish be acclimated to study conditions for at least 2 weeks.

The test temperature was not monitored every six hours as recommended

A 30-minute dawn and dusk simulation period is recommended in the transition period was not used in the study.

Each selected nominal concentration was between 55% and 57% of the highest concentration. The SEP recommends that each concentration be the next highest concentration.

- B. **Statistical Analysis:** The reviewer used EPA's Toxanal program to calculate the LC₅₀ value and obtained the same results (see attached printout).
- C. **Discussion/Results:** Results from the preliminary test indicated that foam was present in the 1.0 and 10 mg/L treatments within the first 2 hours. However, the report did not state if this foam was present in the control. The reviewer assumes that this foam was present due to the formulation within the test material that went into solution eventually. Additional measurements would have been helpful to confirm the presence of foam at stated nominal rates.

This study is scientifically sound and satisfies the guideline required static acute toxicity test. The 96-hour LC₅₀ of 8.3 mg/L (based on a concentration of total product) classifies Ordram: Propanil 3:3E as toxic to rainbow trout. The NOEC was estimated as 1.0 mg/L based on a concentration of total formulated product.

D. **Adequacy of the Study:**

- (1) **Classification:** Core for the formulated product.
- (2) **Rationale:** N/A.
- (3) **Repairability:** N/A.

15. **COMPLETION OF ONE-LINER FOR STUDY:** Yes, 6-7-91.