

US EPA ARCHIVE DOCUMENT

3-21-96
Branch file copy

DATA EVALUATION RECORD
§ 72-1 ACUTE LC₅₀ TEST WITH A FRESHWATER FISH

1. CHEMICAL: Alachlor sulfonic acid PC Code No.: 090501

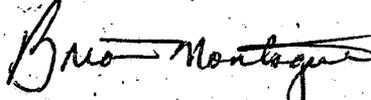
2. TEST MATERIAL: Sulfonic Acid degradate of Alachlor
Purity: 91.5%

3. CITATION

Authors: Bowman, Jane
Title: Acute Toxicity of Mon 5775 to Rainbow Trout
(*Oncorhynchus mykiss*)
Study Completion Date: October 14-18, 1994.
Laboratory: ABC Laboratories, Columbia, Missouri
Sponsor: Monsanto Company, St. Louis, Mo.
Laboratory Report ID: #41729
MRID No.: 43774704
DP Barcode: D219382

4. REVIEWED BY: Brian Montague, Fisheries Biologist
Ecological Effects Branch

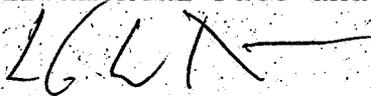
Signature:



Date: 3/12/96

5. APPROVED BY: Les Touart, PhD, Supervisory Biologist
Ecological Effects Branch
Environmental Fate and Effects Division

Signature:



Date: 3/12/96

6. Study Parameters

Scientific Name of Test Organism: *Oncorhynchus mykiss*
Age or Size of Test Organism: Mean wt: 0.52 g
Definitive Test Duration: 96 hours
Study Method: Static single dose

7. CONCLUSIONS:

Results Synopsis

LC₅₀: >104 ppm ai 95% C.I.: NA ppm ai
NOEL: = 104 PPM ai Probit Slope: NA

8. ADEQUACY OF THE STUDY

A. Classification: CORE

B. Rationale: The registrant has demonstrated the LC₅₀ to
be >100 mg/L.

C. Repairability: Not necessary

9. **GUIDELINE DEVIATIONS** No serious deviations noted. This is a one dose range test. Pretest mortality during acclimation was not mentioned in the report.

10. **SUBMISSION PURPOSE:** Study was submitted in response to reregistration data requirements for Alachlor degradate testing.

11. **MATERIALS AND METHODS**

A. **Test Organisms**

Guideline Criteria	Reported Information
Species	<i>Onchorhyncus mykiss</i>
Mean Weight	0.52g (based on control fish)
Mean Standard Length	Mean: 41 mm. Range: 36-44 mm
Supplier and Related Information	Eyed eggs were received from Mt. Lassen but raised to fry at ABC Labs

B. **Source/Acclimation**

Guideline Criteria	Reported Information
Acclimation Period	14 Day observation period and 72 hr. temp. adjustment period
Signs of disease or injury	None noted
Disease Treatments	None mentioned
Feeding Regime (last pretreatment feeding)	Newly hatched brine shrimp, and commercial fish food after swim-up. Fish were not fed during acclimation or test period.
Pretest Mortality	% Mortality not reported

C. **Test System**

Guideline Criteria	Reported Information
Source of dilution water	Hard blended - well water mixed with reverse osmosis subjected well water.
Pretest signs of stress	None noted
Water Temperature	15 \pm 1°C = Range 14.5 - 15.3

Guideline Criteria	Reported Information
pH Range and mean values	7.9 - 8.3
Dissolved Oxygen Range and mean values	7.2-9.2 mg/L ~74- 96% saturation
Total Hardness	130-160 mg/L as CaCO ₃
Test Aquaria Description	Material:Glass Size: 19 L Fill volume:15 L Depth = 29.9 cm
Type of Dilution System	NA - test substance added directly to static system tanks.
Biomass Loading Rate	Estimated at 0.28 g/L
Photoperiod	16D/8N
Solvents	Type: None used

D. Test Design

Guideline Criteria	Reported Information
Range Finding Test	No mortality seen after 96 hour exposure at 100 mg/L
Definitive Test Nominal Concentrations Number of Replicates/conc.	Nominal: Control and 100 mg/L 4 replicates/group
Number of Test Organisms	Total per Test Group: 32 Total per Replicate: 8
Method of Test Organism Assignment	Randomly
Biological observation regime	Immediately after intro and daily thereafter
Water Parameter Measurement Schedule	Temperature:Daily each vessel DO: Daily in each vessel pH: Daily in each vessel
Chemical Analysis Regime and Methodology	Samples measured by HPLC methods. 0 and 96 hour samples taken.

12. REPORTED RESULTS

A. General Results

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements	Statements are included.
% Recovery of Chemical	100+ % of nominal values
Control Mortality	0 % in controls
Signs of toxicity (behavioral or physical).	No adverse signs reported

Mortality

Concentration (PPB)		Number of Fish	Cumulative Number Dead			
Nominal	Mean Measured		Hour of Study			
			24	48	72	96
Control	---	32	0	0	0	0
100 PPM	104 PPM	32	0	0	0	0

Other Significant Results: None of note

B. Statistical Results

Method: N/A this is a one dose study

96-hr LC₅₀: > 104 PPM

Probit Slope: NA 96 hr NOEC: 104 PPM

13. VERIFICATION OF STATISTICAL RESULTS Not applicable as this as a single dose test.

14. REVIEWER'S COMMENTS:

The sulfonic acid degradate of alachlor appears to be nearly nontoxic to rainbow trout based on the results reported for this study. This study has satisfied the requirement for acute toxicity testing of this alachlor metabolite.