

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

1. Chemical: Arsenal
2. Test Material: AC 252,925 - isopropylamine salt of
AC 243,997
49.68% ai
3. Study/Action Type: Aquatic invertebrate acute toxicity
test
Daphnia magna
4. Study ID: Static Acute Toxicity Report No. 32183. Acute
Toxicity of AC 252,925 to Daphnia magna. By
Analytical Bio-Chemistry Laboratories, Inc.
Submitted to American Cyanamid Co. October 24,
1984. EPA Accession No. 258898.

5. Reviewed by: Ann Stavola
Aquatic Biologist
EEB/HED

Signature: *Ann Stavola*
Date: *Mar 23 1986*

6. Approved by: Doug Urban
Supervisory Biologist
EEB/HED

Signature: *Douglas Urban*
Date: *3/31/86*

7. Conclusions:

With an LC₅₀ of 750 (560 to 1000) mg/L, AC 252,925 is practically nontoxic to freshwater invertebrates. This study is scientifically sound. Since EEB required testing with this formulation, the study meets our Guidelines requirements.

8. Recommendations: N/A

9. Background:

Testing with the formulated product was requested by EEB to see if the presence of isopropylamine affects the toxicity of the active ingredient.



2055076

10. Materials and Methods:

a. Animals:

Species: Daphnia magna

Source: Cultured at ABC facilities.

Age: First instar less than 24 hours old.

b. Dosage: Test compound - AC 252,925, 49.68% ai. The test compound was added directly to the beakers without any solvent. The test concentrations were 56, 100, 180, 320, 560, and 1000 mg/L plus a control.

c. Design: Static acute bioassay - Test vessels - 250 mL glass beakers containing 200 mL of ABC aged well water of hard quality. Test vessels were kept at 20 °C, and photoperiod was 16L:8D. There were two beakers per concentration, with each beaker containing 10 daphnids.

d. Statistics: Computerized LC₅₀ program by Stephan.

11. Reported Results:

| <u>Nominal Conc.</u> <u>(mg/L)</u> | <u>Percent Mortality</u> | |
|---------------------------------------|--------------------------|--------------|
| | <u>24 hr</u> | <u>48 hr</u> |
| Control | 0 | 0 |
| 56 | 0 | 0 |
| 100 | 0 | 0 |
| 180 | 0 | 0 |
| 320 | 0 | 0 |
| 560 | 0 | 0 |
| 1000 | 85 | 100 |

LC₅₀ mg/L

24 hr 820 (560 to 1000)

48 hr 750 (560 to 1000)

D.O. was 7.9 mg/L at 0-hour in the control, and 7.5 mg/L in the control, and 7.2 mg/L in the test vessels at 48 hours. pH was 8.3 at 0-hour in the control, and 8.6 in the control, and 8.7 in the test vessels at 48 hours.

12. Study Author's Conclusions/QA Measures

48-hour LC₅₀ = 750 (560 to 1000) mg/L

"The study was conducted following the intent of the Good Laboratory Practice Regulations, and the final report was reviewed by Analytical Bio-Chemistry Laboratories' Quality Assurance Unit. All original raw data was provided to American Cyanamid Co., with a copy retained at Analytical Bio-Chemistry Laboratories."

13. Reviewer's Conclusions:

- a. Test Procedures: The procedures followed those recommended by EPA Guidelines, 1982.
- b. Statistical Analysis: A recalculation of the 24-hour and 48-hour LC₅₀ values with our "Toxanal" programs gave the respective LC₅₀ values as 816 (560 to 10,000) mg/L and 748 (560 to 1000) mg/L. The reported results are acceptable.
- c. Discussion/Results: A 48-hour LC₅₀ value of 750 (560 to 1000) mg/L indicates that AC 252,925 is practically nontoxic to freshwater invertebrates.
- d. Adequacy of Study:
 1. Classification: Core.
 2. Rationale: EEB required testing with the isopropylamine salt of AC 243,997.