

US EPA ARCHIVE DOCUMENT

1-26-80
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DATA EVALUATION RECORD

1. CHEMICAL: Acetochlor
2. FORMULATION: Unknown, (suspect 91.3% A.I.)
3. CITATION: Static Acute Bioassay Report #24018, Acute toxicity of CP-55097 (AB-79-079) to Daphnia magna by Analytical Bio chemistry Laboratories, Inc. for Monsanto Company, July 31, 1979.
4. REVIEWED BY: Russel Farringer, III
Wildlife Biologist
Ecological Effects Branch, HED
5. DATE REVIEWED: 1/26/80
6. TEST TYPE:
 - A. Test Species: Daphnia magna
7. REPORTED RESULTS: The 48-hour LC₅₀ is 16 mg/L (C.L. 95% 14-18).
8. REVIEWER'S CONCLUSIONS: This test was not scientifically sound. The test will not support registration until the question^s in the closing conclusions are answered and are acceptable.

Reviewer's Conclusions
Test Procedure

From the report in regards to range finding test "the range was found by beginning at 0.1 and increasing the amount of test material by a factor of 10 until a toxic level was found". From the lab reports this level was never reached in a range finding test. The range finding test was conducted at 0.1, 1.0, 10 mg/l and none of these had mortality. Therefore, the actual test levels were apparently estimated.

Statistical Results

EEBr statistical analysis (Binomal) approximates the LC₅₀ to be 13.9 mg/l (C.L. 95% 10 to 18 mg/L). We question what actual statistical analysis the registrant used.

Conclusions

Category: Invalid

Rationale: (A) The range finding test is in discrepancy with the actual dose levels.

(B) The actual statistical analysis used in this report could not be determined.

Repairability: Repairable to core if the range find discrepancy can be explained and if acceptable statistical technique for this data is cited.

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
32	20	20	100	9.53674E-5
18	20	19	95.	2.00272E-3
10	20	0	0	9.53674E-5

THE BINOMIAL TEST SHOWS THAT 10 AND 18 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 13.9446

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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