1-26-80

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DATA EVALUATION RECORD

1. CHEMICAL: Acetochlor

2. FORMULATION: Mon-097 91.3%

3. CITATION: Static Acute Bioassay Report (24017), Acute toxicity of CP-55097 (AB-79-078) to Bluegill sunfish (Lepomis macrochirus) by Analytical Bio Chemistry Laboratories, Inc. for Monsanto Chemical Company, July 31, 1979.

4. REVIEWED BY: Russel Farringer, III
Wildife Biologist
Ecological Effects Branch, HED

5. DATE REVIEWED: 1/26/80

6. TEST TYPE:

A. Test Species: Bluegill sunfish

7. REPORTED RESULTS:

The 96 hour LC_{50} is 1.3 mg/L (C.L. 95% 1.0-1.7 mg/L).

8. REVIEWER'S CONCLUSIONS: This study was not scientifically sound. The Reported LC_{50} value may or may not be realistic. This study will not support registration.

Materials/Methods

Test Procedures

The technical material was listed as 91.3% CP-55097 technical. The following criteria were not met as indicated in the body of the report: weight of fish .41 gms instead of .5-5 gms; the dissolved oxygen concentration and the use of aeration make the consideration of this test questionable; solvent controls were not indicated in the body of the report; toxic symptoms were not given in the text of the written report and the statistical analysis that was actually used to determine the LC_{50} was not given. Further the 3°C increase in water temperature on day two could have baised the results of this test. This increased temperature is one of the probable causes for the rapid decrease in dissolved oxygen; another could be the increase in nH_3.

Statistical Analysis

While the report cites Litchfield and Wilcoxin or Stephans, the actual statistical technique could not be determined. The Laboratory work sheets contain a probit graph, which is in correct, but indicates the reported results.

Reviewer's Evaluation

A. Test Procedure

This study has enough inconsistencies in the test procedure to be rejected.

B. Statistical Analysis

Our binomial program was utilized on the available data (results below). However, because of the above mentioned factors, this value should not be considered in any hazard assessment.

C. Conclusions

1. Category: Invalid

2. Rationale: A) The power failure on day 2 caused the recommended quality controls to be violated.

B) The use of aeration without subsequent water analysis to assure concentration levels was not performed.

C) The quality controls in the test are open to question as the loading per container was 0.14 g/Lg well below the 0.8 g/L maximum. If DO levels were near saturation at the beginning of the test, as indicated with zero hour sample, then ample DO to conclude the test without supplemental aeration.

D) Since the letter from Monsanto Co. indicates that this product is practically non-soluble in water, EEB questions whether the material into solution in the test chamber.

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
1.8	10	10	100	9.76563E-2
1	10	2	20.	5.46875

THE BINOMIAL TEST SHOWS THAT 0 AND 1.8 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 1.20322

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.