DATA EVALUATION RECORD

6/8/1981

1. CHEMICAL: Copper

2. FORMULATION: Cutrine Plus

3. CITATION: Lightner, Donald V. Toxicity of Cutrine-Plus to Blue shrimp. Submitted by Applied Biochemists, Inc. in support of proposed registration of Aquatrine for use in shrimp culture facilities. Accession No. 245135
MRID# R10C0P04

4. REVIEWED BY: Mary L. Gessner
Fishery Biologist
HED/EEB

5. DATE REVIEWED: 8 June 1981

6. TEST TYPE: 96-hour LC_{50}
Species: Blue Shrimp (Penaeus stylirostris)

7. REPORTED RESULTS: The 96-hour LC_{50} was reported to be 19 ppm.

8. REVIEWER'S CONCLUSIONS: This study is grossly inadequate to support pesticide registration. Test procedures are not described and results are a composite of 3 different tests. No valuable data can be obtained from this study, as it is presented.

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Materials/Methods

Test Procedures

Test procedures were not well explained. The report stated that standard static bioassay techniques were employed to find the 24, 64 and 96-hour LC_{50} and LT_{50}. Juvenile blue shrimp (Penaeus stylirostris) were exposed to concentrations of Cutrine-Plus ranging from 12.5 to 100 ppm (expressed as copper). Temperature in the tanks averaged 24°C.

Statistical Analysis

LC_{50} values for 24 and 96 hours were calculated by regressing the data on a Log concentration vs. probit basis.

Discussion/Results

LC_{50}'s are variously reported as 117 mg/l vs. 102.8 ppm (24-hour) and 19 mg/l vs. 17.4 ppm (96-hour). The author reports that juvenile blue shrimp were unaffected at treatment levels ranging from 0.5 to 20 pm.

Reviewer's Evaluation

A. Test Procedure

Adequate information was not provided to determine if recommended EPA protocol were followed. Required data includes, but is not limited to, information pertaining to: test chambers; dilution water; source, holding, and acclimation of test organisms; size of test chambers; feeding; water quality during testing; and simultaneous controls.

B. Statistical Analysis

Data analysis was not verified by EEB.

C. Discussion/Results

Reported results are based on a compilation of data from three different tests. LC_{50}'s obtained in this manner are not acceptable to support pesticide registration.

D. Conclusions

Category: Invalid

Rationale: Insufficient information is provided to determine whether or not this study is scientifically sound. A lack of concurrent controls and failure to identify the experimental design invalidate this study.

Repairability: This study may be repairable to supplemental or core if conformance to recommended EPA protocol of July 10, 1978 can be shown.

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