DATA EVALUATION RECORD

1. CHEMICAL: Naphthaleneacetic Acid

2. FORMULATION: Technical (98% Active)

3. CITATION: Suprenant, D.C. and G.A. LeBlanc. (1981) Acute Toxicity of Naphthaleneacetic Acid to the water flea (Daphnia magna). Unpublished report prepared by EG&G, Bionomics, Aquatic Toxicology Laboratory for the Union Carbide Company. [Acc. No. 246079]

4. REVIEWED BY: Leslie Touart
Fisheries Biologist
EEB/HED

5. DATE REVIEWED: 12/29/81

6. TEST TYPE: Aquatic Invertebrate 48-hour EC_{50}

A. TEST SPECIES: Daphnia magna

7. REPORTED RESULTS: The 48-hour LC_{50} and corresponding 95% confidence interval for the water flea exposed to Naphthaleneacetic Acid were estimated by binomial probability to be 360 (220-590) mg/l. Recalculated = 180 ppm based on mean.

8. REVIEWERS CONCLUSIONS: The study is not scientifically sound and does not fulfill the requirement for an acceptable aquatic invertebrate acute toxicity study with technical material. See attached memo

Materials/Methods

Test Procedures

Protocol generally followed the recommended test procedures of the EPA proposed guidelines of July, 1978.

Statistical Analysis

Mortality data were analyzed with the Stephan program.

Discussion/Results

Nominal Concentration (mg/l)	Percentage (24 hr)	Mortality (48 hr)
980	100	100
590	100	100
350	7	33
220	0	0
140	0	0
80	0	0
solvent control	0	0
control	0	0

All test solutions of NAA contained undissolved chemical throughout the study period.

Reviewer's Evaluation

A. Test Procedures

Protocol generally followed the recommended procedures in the EPA proposed guidelines of 1978. However, adequate steps were not taken to insure maximum solubilization of the test material. A different solvent (e.g., acetone) or method (e.g., homogenation) could have allowed all the test material to enter solution.

B. Statistical Analysis

Appropriate for the data generated.

C. Discussion/Results

The reported conclusions are unacceptable due to the uncertainty of the actual test concentrations. The solubility of NAA in water is greater than 300 ppm, and in optimal conditions a precipitate should not occur in test solutions containing less than 300 ppm. In test solutions where a precipitate occurs, the actual exposure level is unknown unless chemical analysis of the solution is made.

D. Conclusions

1. Category: Invalid.
2. Rationale: Test solutions contained undissolved chemical.
3. Repairability: None.