

US EPA ARCHIVE DOCUMENT

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 Unpublished report prepared by EG&G, Bionomics, Aquatic Toxicology Laboratory for the Union Carbide Company.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<sub>50</sub>
  - A. TEST SPECIES: Daphnia magna
7. REPORTED RESULTS: The 48-hour LC<sub>50</sub> 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 to be 180 PPM based on 100%*
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.