12-3G
9-5-91

MRID No. 417769-01

DATA EVALUATION RECORD

1. **CHEMICAL:** Propanil-3,4-Dichloropropionilide. Shaughnessey No. 028201.

2. **TEST MATERIAL:** Propanil; Batch No. 01; 98% active ingredient; a blue-gray crystal.

3. **STUDY TYPE:** Marine Shrimp Acute Flow-Through Toxicity Test. Species Tested: Mysid shrimp (Mysidopsis bahia).

4. **CITATION:** Sousa, J.V. 1990. (Propanil) - Acute Toxicity to Mysid Shrimp (Mysidopsis bahia) Under Flow-Through Conditions. SLI Report No. 90-4-3275. Performed by Springborn Laboratories, Inc., Wareham, Massachusetts. Submitted by The Propanil Task Force, c/o John M. Wise, Liberty, Missouri. EPA MRID No. 417769-01.

5. **REVIEWED BY:**

Rosemary Graham Mora, M.S.
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature:

Date:

6. **APPROVED BY:**

Louis M. Rifici, M.S.
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature:

Date:

Henry T. Craven, M.S.
Supervisor, EEB/HED
USEPA

Signature: Dan Ballaff

Date: 9-5-91

7. **CONCLUSIONS:** This study is scientifically sound and meets the guideline requirements for an acute flow-through toxicity study. The 96-hour LC_{50} of Propanil for Mysidopsis bahia was 0.40 mg a.i./L, based on mean measured concentrations. Therefore, Propanil is classified as highly toxic to mysid shrimp. The NOEC could not be determined.

8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:**

10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A

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5. **REVIEWED BY:**

Rosemary Graham Mora, M.S.
Associate Scientist
KBN Engineering and
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Signature: Rosemary Graham Mora
Date: 6/4/91

6. **APPROVED BY:**

Louis M. Rifici, M.S.
Associate Scientist
KBN Engineering and
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Signature: Louis M Rifici
Date: 6/4/91

Henry T. Craven, M.S.
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→ See page 3 & 18

8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:**

10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A

Mortality, biological observations, and observations of physical characteristics were noted every 24 hours. Dead mysids were removed at each observation interval.

The dissolved oxygen, pH, salinity, and temperature were measured daily in each replicate of the test levels and controls. The temperature was also monitored continuously using a minimum/maximum thermometer. Chemical analyses of the solutions from Day 0 and 4 of the test were performed to verify the test concentrations.

E. **Statistics:** The author used the computer program by Stephan (1977, 1980) to calculate the LC_{50} (EC_{50}). For the results of this study the moving average angle method was used.

12. **REPORTED RESULTS:** Records of test parameters indicate that acceptable test conditions were maintained throughout the study (Table 1, attached).

Based on the mean measured concentrations, the dilution series was as follows: 0.12, 0.19, 0.29, 0.42, 0.63 mg a.i./L (Table 2, attached). The measured concentrations were fairly consistent between sampling days.

The mortality and observation data, based on mean measured concentrations, demonstrated mortality among mysids exposed to 0.12 and 0.19 mg a.i./L was 5-10%. However, since 5% mortality was also observed in the solvent control solution, mortality at the two levels was considered incidental and unrelated to treatment (Table 3, attached).

The 96-hour LC_{50} (EC_{50}) for mysid shrimp exposed to Propanil was 0.40 mg a.i./L (95% confidence interval of 0.35-0.48 mg a.i./L) (Table 4, attached). The slope was 1.2. The NOEC was 0.18 mg a.i./L, "the lowest measured concentration tested."

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:** "Based on EPA (1985) criteria, Propanil would be classified as highly toxic to Mysidopsis bahia."

A Good Laboratory Practice Compliance Statement was included in the report, indicating that the study was in accordance with GLP regulations with the following exceptions: "stability, characterization and verification of the test substance identity and maintenance of record on the test substance is the responsibility of the test Sponsor." This

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The author concluded that the mortality demonstrated in the two lowest concentrations levels was considered incidental and unrelated to the test substance. The reviewer does not support the author's assumption, since it can not be proven that the mortality was not toxicant related. Therefore, it should be considered that the NOEC could not be determined. However, this does not effect the validity of the test.

This study is scientifically sound and meets the guideline requirements for a acute flow-through toxicity study. The 96-hour LC_{50} of 0.40 mg a.i./L, based on mean measured concentrations, indicates that Propanil is highly toxic to mysid shrimp. The NOEC could not be determined. or (<.12) lowest dose ?

D. **Adequacy of the Study:**

(1) Classification: Core.

(2) Rationale: N/A

(3) Repairability: N/A

15. **COMPLETION OF ONE-LINER FOR STUDY:** Yes, April 19, 1991.

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____ Description of quality control procedures.

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