DRAFT

C-EPA.1/ERA-DM22.1
06/25/87

DATA EVALUATION RECORD
MRID-97246

1. CHEMICAL: Dithane M-22

2. TEST MATERIAL: Manganese ethylene bisdithiocarbonate (Maneb), 80-percent active ingredient, 20-percent inert ingredients.

3. STUDY TYPE: Freshwater Fish Acute Toxicity
Species Tested: Bluegill sunfish (Lepomis macrochirus)

4. CITATION: McCann, J.A.; Pitcher, F. (1973) Dithane M-22: Bluegill (Lepomis macrochirus) Test #541. USEPA, Pesticides Regulation Division, Animal Biology Laboratory; CLD:128296-A. Submitted by Rohm & Haas, Pennsylvania.

5. REVIEWED BY: Jeri Brecken
Associate Scientist
Environmental Science and
Engineering, Inc.
Signature:
Date:

6. APPROVED BY:
Signature: Henry T. Craven
Date: 11/30/87

7. CONCLUSIONS: This study is scientifically sound and has been rated as Core. It provides an LC50 value for the formulated product of Dithane M-22 on bluegill.

8. RECOMMENDATIONS: N/A

9. BACKGROUND: N/A

10. DISCUSSION OF INDIVIDUAL TESTS: N/A

11. MATERIALS AND METHODS:

A. Test Animals: Lepomis macrochirus were received on October 26, 1986, from Harrison Lake National Fish Hatchery. The animals were held at 18°C for 10 days. Three days prior to testing the fish were acclimated in a separate tank without feeding. No mortality was reported for the acclimation period.

B. Test System: The test was conducted in 5-gallon (gal) glass jars with 15-liter (L) solutions used per jar. Fish were added to dilution water the day before the test chemical was added.

C. Dosage: Static test dosage of each concentration based on active ingredient.

D. Design: Eight concentrations were employed in the study. Ten fish were tested per concentration.

E. Statistics: Statistics were calculated by Litchfield-Wilcoxon method.

12. REPORTED RESULTS: The 24-hour LC50 for bluegill exposed to Dithane M-22 is 2.5 parts per million (ppm).

24-hour LC50 (Based on 6 concentrations):	2.5 ppm
48-hour LC50 (Based on 5 concentrations):	1.38 ppm
96-hour LC50 (Based on 4 concentrations):	1 ppm

13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES: The 24-hour LC50 was calculated with 5 effect concentrations. Also included was 48- and 96-hour LC50 values, but these were not specifically referred to in the report.

14. REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:

A. Test Procedure: All test procedures were not in accordance with protocols recommended by the Guidelines because the test was performed prior to the current Guidelines. The use of controls was not mentioned but implied in the number of concentrations employed. The number of fish used per concentration was not as many as currently recommended by the Guidelines.

B. Statistical Analysis: Stephans computer LC50s give the following values in comparison to the statistical results of the study:

24 hour: 2.5 ppm [Confidence Limits (CL) 2.099, 2.892]
48 hour: 1.27 ppm (CL 1.067, 1.457)
96 hour: 0.979 ppm (CL .861, 1.09)

C. Discussion/Results: The author only reported a 24-hour LC50 of 2.5 ppm. Calculating the LC50 with Stephans program using all 8 concentrations gives a value of 1.27 (CL 1.07, 1.46) for the 96-hour LC50. This classifies the compound as moderately toxic, as opposed to the highly toxic level of 1 ppm reported in the study at 96 hours.

D. Adequacy of the Study: Core, with additional raw data needs in order to comply with current Guidelines.

15. COMPLETION OF ONE-LINER FOR STUDY: Yes, June 24, 1987.