DATA EVALUATION RECORD

1. **CHEMICAL:** Mon 13900, Shaughnessey Number ~~999999~~ 911596

2. **TEST MATERIAL:** Mon 13900, 96.4% active ingredient, a gray-brown powder.

3. **STUDY TYPE:** Dietary LC_{50} study with the mallard

4. **CITATION:** Foster, J., C. Driscoll, K. Hoxter, and M. Jaber. 1990. A dietary LC_{50} study with the mallard Wildlife International Ltd. Project No.: 139-262 FIFRA guideline 71-2 (b). Study performed by Wildlife International Ltd., Easton, Maryland. Submitted by Monsanto Agricultural Company. MRID No. 420197-39.

5. **REVIEWED BY:**

Renee Lamb
Biologist
Ecological Effects Branch (H7507C)
Environmental Fate & Effects Division

Signature: Renée L
Date: 1/15/92

6. **APPROVED BY:**

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Ecological Effects Branch (H7507C)
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Signature: Ann Stavola
Date: 5/28/93

7. **CONCLUSIONS:** This study appears to be scientifically sound and meets the guideline requirements for an avian acute oral dietary study. The dietary LC_{50} for mallards exposed to Mon 13900 was determined to be greater than 5620 ppm, the highest concentration tested. The no mortality level was 5620 ppm. The NOEC was 1000 ppm based on a reduction in body weight gain at the 1780 ppm concentration. Therefore, Mon 13900 is considered practically non toxic to waterfowl on a dietary basis.

8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:** N/A

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

11. **MATERIALS AND METHODS:**

A. **TEST ANIMALS:** The birds, mallard duck Anas platyrhynchos were 10 days of age and in good health upon test initiation. They were all from the same hatch, pen-reared and phenotypically indistinguishable from wild birds. The birds were obtained from

Whistling Wings in Hanover, Illinois. They were hatched on April 16, 1990. They were acclimated for 9 days prior to test initiation.

B. **TEST SYSTEM:** All birds were housed indoors in brooding pens manufactured by Safeguards Products, Inc. The pens measured approximately 62 X 92 cm. with ceiling heights of approximately 25.5 cm. The temperature averaged 32°C ± 3°C in the brooding compartment of the pens. Average ambient room temperature was 25°C ± 2°C with an average relative humidity of 60% ± 12%. The photoperiod was maintained at 16 hours of light per day during acclimation and throughout the test. The birds were exposed to approximately 130 lux (12.03 foot candles) of illumination.

C. **DOSAGE:** Treatment levels were based upon known toxicity data. Nominal concentrations were 562, 1000, 1780, 3160, and 5620 ppm. The control birds received carrier only, equivalent to the greatest amount used in the treated diets.

D. **DESIGN:** Each test group, and the controls, were assigned a pen containing 10 ducklings. The ducklings were immature and were not differentiated by sex. The birds were fed a game ration *ad libitum* throughout the test.

Birds were observed daily for signs of toxicity and abnormal behaviors. Body weights by group were measured upon test initiation and on day 5, and at termination on day 8. Average estimated feed consumption was determined for each group for the exposure period, days 0-5, and for the post-exposure period days 6-8.

The test diets were prepared by mixing the test substance into the diet with corn oil (2% concentration). The dietary concentrations were not adjusted for purity of the test substance.

E. **STATISTICS:** No statistics were used to analyze the data.

12. **REPORTED RESULTS:**

There were 0 mortalities in the control, and all birds seemed normal in appearance and behavior throughout the test. Body weight gain and feed consumption for one of the control groups for days 0-5 were lower than two other concurrent control groups. Therefore, comparisons with the control are based on the first two control groups.

There were 0 mortalities at any concentration tested. All birds appeared normal in appearance and behavior throughout the test period.

Although, there was a dose responsive reduction in body weight gain at the 1780 ppm concentration, a moderate reduction at the 3160 ppm concentration and a marked reduction at the 5620 ppm concentration for the exposure period when compared to the controls. There was no apparent treatment related effect on feed consumption at any concentration.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**

The dietary LC_{50} for mallards exposed to Mon 13900 was determined to be greater than 5620 ppm, the highest concentration tested. The no mortality level was 5620 ppm. The NOEC was 1000 ppm based on a reduction in body weight gain at the 1780 ppm concentration.

The report stated that the study was conducted under good laboratory practice standards and is signed be a quality assurance officer.

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

A. **TEST PROCEDURE:** This test is in accordance with EPA's SEP protocol with the following exception:

o Group body weights were measured at test initiation and termination, SEP recommends individual body weights at these times.

B. **STATISTICAL ANALYSIS:** The data was not analyzed using statistics.

C. **DISCUSSION/RESULTS:** This study appears to be scientifically sound and meets the guideline requirements for an avian acute oral dietary study. The dietary LC_{50} for mallards exposed to Mon 13900 was determined to be greater than 5620 ppm, the highest concentration tested. The no mortality level was 5620 ppm. The NOEC was 1000 ppm based on a reduction in body weight gain at the 1780 ppm concentration.

D. **ADEQUACY OF STUDY:**

(1) CLASSIFICATION: Core

(2) RATIONALE: N/A

(3) REPAIRABILITY: N/A