12/13/88

DATA EVALUATION RECORD

1. **CHEMICAL:** Pyrinex® (chlorpyrifos) SN: 059101

2. **TEST MATERIAL:** TGAI 96.8%

3. **STUDY/ACTION TYPE:** Avian Dietary LC50 - Mallard Duck

4. **STUDY IDENTIFICATION:**
Roberts, N., C.N.K. Phillips. 1987. The dietary toxicity (LC50) of chlorpyrifos to the mallard duck. Prepared by Huntingdon Research Centre, Huntingdon, England. Submitted by Makhteshim-Agan New York, NY. Accession number: 408547-02.

5. **REVIEWED BY:**

David Johnson, Fishery Biologist
Ecological Effects Branch
Environmental Fate and Effects Division

Signature: David Johnson
Date: 13 Dec 88

6. **APPROVED BY:**

Harry Craven, Head, Section 4
Ecological Effects Branch
Environmental Fate and Effects Division

Signature: Harry T. Craven
12/18/88
Date:

7. **CONCLUSIONS:**

This study shows that when tested on Mallard ducks, Pyrinex (chlorpyrifos) has an LC50 = 203 ppm. This study is scientifically sound.

8. **RECOMMENDATION:** n/a

Observable Effects

BACKGROUND:

REPORTED RESULTS:

10. **DISCUSSION OF INDIVIDUAL STUDIES OR TESTS:** n/a

11. **METHODS AND MATERIALS:**

Test material The percent active ingredient was listed as 96.8%.

Species. Mallard Duck (Anas platyrhynchos L.)

Age. The birds were 7d old when the test was initiated.

Physical condition. The birds were in good health, of uniform size and weight, and were indistinguishable from wild birds.

Source/Acclimation. The birds were supplied by: County Game Farms, Hothfield, Ashford, Kent, England. The birds were acclimated to the test facilities for an unspecified period of time.

Test conditions.

Number of birds per concentration: 10

Pen facilities: steel brooders, room temperature: 29-33°C, humidity: 61%.

Photoperiod: constant light

Food consumption and weight gain: The weights of the birds and the food were measured before and after the test.

Dose preparation/administration: The test diets were prepared by mixing the test material into the food.

Observation period: once daily x 8 days

Controls: 30 birds

Carrier: acetone

Observable Effects Criteria weight gain, feeding, and mortality

Concentrations: 0, 156, 312, 625, 1250, 2500, 5000 ppm

12. **REPORTED RESULTS:** Three mortalities occurred at 156, 312, nine at 625, and 1250, and 10 at 2500 and 5000 ppm. The LC50 value was 203 ppm. Clinical signs of toxicity were observed in all treated groups. Surviving birds in all test groups had lower bodyweights than controls. Treated groups showed a lower feeding rate.

Gross necropsy All birds were examined. No effects were observed in any test group or controls.

Statistical analysis Probit analysis

Calculated LD50 203ppm

Data The mortality data were included with the report.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**
Treatment related differences in body weight gain or feed consumption between test groups and controls were not statistically evaluated. The LC50 was calculated as above. Quality assurance and GLP procedures were followed.

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

A. Test Procedure. The study was performed under conditions that generally comply with current guideline standards.

B. Statistical Analysis. Probit analysis

C. Results/Discussion.
This study shows that when tested on Mallard ducks, Pyrinex (chlorpyrifos) has observable effects at dietary concentrations at or above 156ppm. The LC50 is 203 (CL_{95}=68-323) ppm. This study is scientifically sound.

D. Adequacy of the Study.

1. Category: core

2. Rationale:

3. Remedial action: none

15. COMPLETION OF ONE-LINER 08 Dec 88

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