12/13/88

DATA EVALUATION RECORD

1. **CHEMICAL:** Chlorpyrifos SN: 059101

3. **STUDY/ACTION TYPE:** Avian Dietary LC50 - Bobwhite quail

4. **STUDY IDENTIFICATION:**
Roberts, N., and C.N.K. Phillips. 1987. The subacute dietary toxicity of Pyrinex (chlorpyrifos) technical to the bobwhite quail. Prepared by Huntington Research Centre, Huntingdon, England. Submitted by Makhteshim-Agan, New York, NY. Accession number: 408547-03.

5. **REVIEWED BY:**

David Johnson, Fishery Biologist
Ecological Effects Branch

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
Date: 12/13/88

7. **CONCLUSIONS:**
This study shows that when tested on Bobwhite quail (Colinus virginianus), Pyrinex (chlorpyrifos) has a dietary LC50 506 ppm. This study is scientifically sound.

8. **RECOMMENDATION:** n/a

9. **BACKGROUND:**

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

11. **METHODS AND MATERIALS:**

Test material. The technical grade active ingredient was administered in this test. The percent active ingredient was listed as 96.8 %.

Species. Bobwhite quail (Colinus virginianus)

Age. The birds were 12d 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 purchased from D.R. and R.E. Wise Monkfield, Claxton, Cambridgeshire, England. The acclimation period was not specified.

Test conditions.

Number of birds per concentration: 10

Pen facilities: wooden boxes with wire mesh lids, room temperature: ~30°C range 18-34, humidity:41-68%

Photoperiod: constant light

Food consumption and weight gain: The treated groups showed lowered food consumption in relation to the control group.

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

Observation period: once daily x 8 days

Controls: 10 birds

Carrier: acetone

Observable Effects Criteria weight gain, feeding, and mortality

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

12. **REPORTED RESULTS:** There was complete mortality in the three highest concentrations. One mortality occurred at 312 ppm, and seven mortalities occurred at 625 ppm. All surviving birds appeared in good health. The LC50 value was determined as 506 ppm with 95% confidence levels of 383-674 ppm. Clinical signs of toxicity were recorded in all groups treated with chlorpyrifos and these included subdued appearance and unsteadiness. A small decrease occurred in bodyweight between days 8 and 10 at 312 ppm. Surviving birds at 625 ppm showed virtually no increase in body weight on days 0-5, and a large increase on days 5-8.

Gross necropsy All birds were examined. No signs of substance related changes were observed.

Statistical analysis Probit analysis

Calculated LC50 506ppm

Data The individual data for mortalities were included with the report; however, only group means were provided for body weights, and food consumption.

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. The data were analyzed by the Agency, we concur with the study authors conclusions.

C. Results/Discussion.
This study shows that when tested on Bobwhite quail (Colinus virginianus), chlorpyrifos has a dietary LC50= 506ppm. This study is scientifically sound.

D. Adequacy of the Study.

1. Category: core

2. Rationale:

3. Remedial action: none

15. **COMPLETION OF ONE-LINER** 07 December 1988

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