(7-22-92)

EFED Document

2002072

MRID No. 000679-27

DATA EVALUATION RECORD

1. **CHEMICAL:** Propiconazole.
Shaughnessey No. 122101.

2. **TEST MATERIAL:** CGA 64250 technical; FL 800891; ARS 1852; 90.8% purity; an amber viscous liquid.

3. **STUDY TYPE:** Avian Dietary LC_{50} Test. Species Tested: Mallard duck (*Anas platyrhynchos*).

4. **CITATION:** Beavers, J.B. and R. Fink. 1980. Eight-day Dietary LC_{50} of Propiconazole in the Mallard. Project No. 108-192. Performed by Wildlife International Ltd., Easton, MD. Submitted by Ciba-Geigy Corporation. EPA MRID No. 000679-27.

5. **REVIEWED BY:**

Mark A. Mossler, M.S.
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature: [signature]
Date: 7/6/92

Kathryn T. Valente 7/13/92

6. **APPROVED BY:**

Michael Whitten, M.S.
Wildlife Toxicologist
KBN Engineering and
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Signature: Michael L. Whitten
Date: 7/6/92

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

Signature: Henry T. Craven 7/22/92
Date:

7. **CONCLUSIONS:** This study is scientifically sound and meets the guideline requirements for an avian dietary LC_{50} toxicity test. The LC_{50} of propiconazole for mallard ducklings was >5620 ppm (nominal concentration). Therefore, this compound is classified as practically non-toxic to the mallard duck. The NOEC was 1780 ppm, based on a reduction in feed consumption.

8. **RECOMMENDATIONS:** N/A.

9. **BACKGROUND:**

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

4.5 hrs

11. **MATERIALS AND METHODS:**

A. **Test Animals:** Mallard ducklings (*Anas platyrhynchos*) were hatched from eggs obtained from an in-house production flock. The birds were placed in brooders which maintained the temperature at 100°F during the first seven days and at 75°F thereafter. The birds were 14 days of age at test initiation.

B. **Test System:** The birds were housed in brooding pens which measured 72 x 90 x 24 cm. During the test, the average temperature in the brooding pens was 75°F. A 14-hour photoperiod was used throughout the study.

The test diets were prepared by mixing the test substance in corn oil and blending into the diet. The concentration of corn oil in the treated diet was 2%.

The birds were offered water and feed *ad libitum* throughout the study. A list of the ingredients in the feed was given in the report and it appeared to be free of unfamiliar ingredients and medications.

C. **Dosage:** Eight-day acute dietary LC_{50} test. Dosage levels selected for the study were 562, 1000, 1780, 3160, and 5620 ppm. The dose levels were not corrected for the percent active ingredient of the test material.

D. **Design:** Ten ducklings per test level and in each of five controls were randomly assigned to pens. The birds were fed treated diet for 5 days and untreated diet for 3 days. Signs of toxicity and mortality were assessed daily. Body weights by group were measured at initiation and day 8 (termination) of the test. Average feed consumption was determined by group for days 0-5 (the exposure period). Feed consumption was determined by measuring the change in the weight of the feed presented to the birds over a given period of time. However, this is an estimate due to wastage by the birds.

E. **Statistics:** The LC_{50} of the laboratory standard was estimated by probit analysis using the mortality data.

12. **REPORTED RESULTS:** No mortality or abnormal effects were observed in the control or treatment groups during the study.

A reduction in body weight gain was noted at the highest test concentration and a corresponding reduction in feed consumption was noted at the two highest treatment levels (p. 8, attached).

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:** The acute LC_{50} of CGA-64250 technical in the mallard duck is estimated to be greater than 5620 ppm.

The LC_{50} of a concurrent group of birds exposed to dieldrin was 217 ppm, which indicated that the birds were responding in a normal fashion.

A statement of Quality Assurance resulting in conformance to Good Laboratory Practices was included in the report.

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

A. **Test Procedure:** The test procedures were in accordance with Subdivision E, ASTM, and SEP guidelines with the following exceptions:

Fourteen-day old ducklings were used for the test. Five to ten-day old ducklings are recommended.

Group weights were used during the study. Individual body weights of the birds are recommended for monitoring weight gain or loss.

Necropsies were not conducted. These are recommended, but not required, by the guidelines.

A description of test pen construction was not included in the report.

Corn oil was not added to the control diet.

The temperature in the brooding compartments (24°C) was less than recommended (35°C).

Analytical verification of test concentrations was not conducted.

B. **Statistical Analysis:** Since a dose response was not evident by the end of the testing period, an LC_{50} value and 95% confidence limits could not be obtained. Upon review of the data, the LC_{50} appears to be greater than 5620 ppm. Review of the feed consumption and body weight data indicated that the no-observed-effect

concentration (NOEC) was 1780 ppm, based on a reduction in feed consumption during the exposure period in the two highest treatment groups.

C. **Discussion/Results:** This study is scientifically sound and meets the guideline requirements for an avian dietary LC_{50} toxicity test. The LC_{50} of propiconazole for mallard ducklings was >5620 ppm (nominal concentration). Therefore, this compound is classified as practically non-toxic to the mallard duck. The no-observed-effect concentration (NOEC) was 1780 ppm, based on a reduction in feed consumption.

D. **Adequacy of the Study:**

(1) **Classification:** Core.

(2) **Rationale:** N/A.

(3) **Repairability:** N/A.

15. **COMPLETION OF ONE-LINER:** Yes, 6-25-92.

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