

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

1. CHEMICAL: FIREBRAKE[®] ZB (zinc Borate)
2. TEST MATERIAL: Technical 100 % a.i.
3. STUDY ACTION TYPE: Avian dietary toxicity study
Species tested: Mallard duck (Anas platyrhynchos)
4. STUDY IDENTIFICATION:
FIREBRAKE[®] ZB: LC50 study with Mallard (198⁵), project No. 135-108, Wildlife International Ltd. Submitted by U.S. Borax Research Corporation (Reg. No. 1624-REN)
5. REVIEWED BY: Richard M. Lee
Entomologist
EEB/EFED
Signature: *Richard Lee*
Date: 5/4/89
6. APPROVED BY: Harry T. Craven
Sec. Head, Sec. 4
EEB/EFED
Signature: *Harry T. Craven*
Date: 5/5/89
7. CONCLUSION: The study is scientifically sound and with the dietary LC50 of >5620 ppm FIREBRAKE[®] ZB is practically non-toxic to mallard ducklings. The study does fulfill the guideline requirement for an avian dietary LC50. (EARLY REVIEW)
8. RECOMMENDATION: N/A

9. BACKGROUND: Registration of manufacturing-use product
10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: N/A

11. MATERIAL AND METHODS

Test Procedure

General procedure followed 1982 EPA Pesticide Assessment Subdivision E (Subsection 71-2). Mallard ducklings of 10 days old, 10 birds each were assigned to each group of five control groups (basal diet only) and five test groups with toxicant levels of 562, 1000, 1780, 3160 and 5620 ppm. Laboratory test conditions were average ambient temperature of $21 \pm 2^{\circ}\text{C}$ ($28 \pm 2^{\circ}\text{C}$ for brooder) with relative humidity of 35 % and 16-h lighting. The birds were exposed to treated diets for five days and then maintained on basal diets for three more days. Body weights were recorded by pen at 0, 5th and 8th day. Feed consumption was recorded for each treatment and control groups during five-day exposure and three-day basal diet periods.

Statistical Analysis

The LC50 value was determined by a visual inspection of the mortality data (no mortality for both control and test groups).

12. REPORTED RESULTS

The dietary LC50 for the mallard duck was determined to be greater than 5620 ppm, the highest concentration tested.

13. STUDY AUTHOR'S CONCLUSIONS

The dietary LC50 of FIREBRAKE[®] ZB in the mallard ducklings is estimated to be greater than 5620 ppm. There were no mortality found in both control and treated groups. A slight reduction in body weight was observed at the 5620 ppm concentration during the exposure period. There was no effect on feed consumption at any concentrations tested.

14. DISCUSSION AND INTERPRETATION OF STUDY RESULTS

A. Test procedure

The procedure used generally followed EPA's protocol and scientifically sound.

B. Statistical Analysis

The procedure used for determination of LC50 with the data obtained is appropriate.

C. Discussion/Results

The dietary LC50 of Firebrake ZB in mallard duck is estimated to be >5620 ppm. A slight reduction in body weight gain was observed at the highest test concentration (5620 ppm).

D. Conclusion

a. Category: Core

b. Rationale: N/A

c. Repairability: N/A

15. COMPLETION OF ONE-LINER FOR STUDY

One liner completed 4/26/89

16. CBI APPENDIX

N/A

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