TRID No. 4700-130-24

40062405

DATA EVALUATION RECORD

71-2(a)

1. **CHEMICAL:** Alkyl amino-3-aminopropane.
Shaughnessey No. 067301.

2. **TEST MATERIAL:** Armohib B-101; Sample No. 1564-117; 100% purity; a dark amber-colored liquid.

3. **STUDY TYPE:** Avian Dietary LC_{50} Test. Species Tested: Bobwhite quail (*Colinus virginianus*).

4. **CITATION:** Shapiro, R. and R. Roth. 1984. Avian Dietary LC_{50} with Bobwhite Quail: Armohib B-101. Laboratory Study No. E40716-1. Study performed by Product Safety Labs, New Brunswick, NJ. Submitted by Akzo Chemie America, McCook, IL. EPA TRID No. 4700-130-24.

5. **REVIEWED BY:**

Carolyn F. Poppell, Sc.M.
Senior Scientist
KBN Engineering and
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Signature: for Carolyn Poppell
Date: 6/26/92

6. **APPROVED BY:**

Mark Mossler, M.S.
Associate Scientist
KBN Engineering and
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Signature:
Date: 6/26/92

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

Signature: Henry T. Craven
Date: 6/30/92

Concepcion Rodrigues 6/30/92

7. **CONCLUSIONS:** The study is scientifically sound and fulfills the requirements for an avian dietary LC_{50} test. With an LC_{50} estimated to be above 6400 ppm ai, Armohib B-101 is classified as practically non-toxic to bobwhite quail. The NOEC for Armohib B-101 was 800 ppm ai.

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

9. **BACKGROUND:**

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

11. MATERIALS AND METHODS:

A. Test Animals: The birds used in the study were 17-day old bobwhite quail (*Colinus virginianus*), obtained from Fritts Quail Farm, Harmony, New Jersey, at one day of age. The birds used in the study were immature and could not be differentiated by sex. All birds were acclimated to the facilities from the day of receipt until initiation of the test. Only birds in good health were included in the study.

B. Test System: Birds were housed indoors in thermostatically controlled brooding pens with wire bottomed floors. Pen dimensions were approximately 26 x 36 x 10 inches (66 x 91 x 25 cm). Fluorescent light was provided 24 hours per day. The brooder temperature range was 90 ±5°F (SD).

C. Dosage: Ten-day dietary LC_{50} test. Nominal dietary concentrations selected for the study were 100, 200, 400, 800, 1600, 3200, 4800, and 6400 parts per million (ppm) active ingredient (ai). The selected dietary concentrations were intended to produce 10-90% mortality. A control group was fed the basal diet without any added test material.

D. Design: Groups of ten chicks were randomly assigned to each of one control group and eight treatment groups. All birds were fed Avian Services Broiler Feed No. 4098. Water and feed were provided *ad libitum* during acclimation and during the test.

The test diets were prepared by mixing the test substance into the basal diet. The birds were fed the appropriate dietary concentrations for five days. The control group received only the basal diet without any added test material. Following the five-day exposure period all groups were given untreated feed during a five-day observation period.

During the 5-day dose phase and a 5-day recovery (post-dose) phase, the birds were observed for mortality, abnormal behavior, and signs of gross intoxication.

Body weight by group was measured at the initiation of the test (Day 1), on Day 5, and at the end of the 5-day observation period. Group feed consumption was measured at the end of the 5-day test period and after the 5-day recovery period.

E. **Statistics:** Because of the absence of mortalities in the study, an LC_{50} could not be calculated. An estimation of the LC_{50} was made by a visual inspection of the mortality data.

12. **REPORTED RESULTS:** There were no mortalities and no signs of gross toxicity in any of the test or control groups during the study.

At dietary levels of 3200, 4800, and 6400 ppm (Groups 7 through 9), weight loss was reported during the test phase (Table 2, attached). The authors concluded that this loss was due to reduced feed consumption observed in these groups (Table 3, attached). Feed consumption in these groups improved during the recovery phase, resulting in weight gain.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:** The dietary LC_{50} value for northern bobwhite exposure to Armohib B-101 was determined to be greater than 6400 ppm ai.

Although a Quality Assurance reference (Q.A. 1, 2, 3) was noted in the report summary, there was no mention of QA unit audits. The report stated that the study was conducted in order to comply with 40 CFR 158.145.

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 except for the following deviations:

Body weights were measured by group. Individual body weights should have been measured.

The test birds were 17 days old. Ten to 15-day old birds are recommended.

B. **Statistical Analysis:** Due to the absence of mortality during the test, the LC_{50} could not be calculated, but is estimated to be greater than 6400 ppm ai, the highest concentration tested. Upon review of the body weight and feed consumption data, the effects reported for the three highest concentrations also seem to extend to the 1600 ppm ai treatment as well. Therefore, the no-observed-effect concentration (NOEC) was 800 ppm ai.

C. **Discussion/Results:** The dietary LC_{50} of the test compound was determined to be greater than 6400 ppm ai,

the highest concentration tested. This value classifies Armohib B-101 as practically non-toxic to bobwhite quail. The NOEC for Armohib B-101 was 800 ppm ai, based on reduced weight gain and feed consumption observed at higher test concentrations.

D. **Adequacy of the Study:**

(1) Classification: Core.

(2) Rationale: N/A.

(3) Repairability: N/A.

15. **COMPLETION OF ONE-LINER:** Yes; May 28, 1992.