

US EPA ARCHIVE DOCUMENT

July 7/12/90

MRID No. 410635-47

71-1

DATA EVALUATION RECORD

- 1. CHEMICAL: BAS 514 H Quinclorac.
Shaughnessey Number: Not available.
- 2. TEST MATERIAL: Registration Number 150 732; Batch No. N 32;
98.27% purity; a solid.
- 3. STUDY TYPE: Avian Single-Dose Oral Toxicity Test.
Species Tested: Colinus virginianus.
- 4. CITATION: Munk, R. 1988. Avian single-dose oral LD50 of
Registration Number 150 732 to Bobwhite quail (Colinus
virginianus). Prepared by BASF Department of Toxicology,
Ludwigshafen, FRG. Registration Document No. 88/0526.
Submitted by BASF Corporation Chemicals Division,
Parsippany, New Jersey. MRID No. 410635-47.

5. REVIEWED BY:

Kimberly D. Rhodes
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature:

Date:

6. APPROVED BY:

Michael L. Whitten, M.S.
Wildlife Toxicologist
KBN Engineering and
Applied Sciences, Inc.

Signature:

Date:

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

Signature:

Date:

Henry T. Craven
7/12/90
Daniel Bahoff
7-12-90

- 7. CONCLUSIONS: This study is scientifically sound and
fulfills the guideline requirements for an avian single-dose
oral toxicity test. Under the conditions tested, the oral
LD50 of BAS 514 H for bobwhite quail (Colinus virginianus)
was greater than 2,000 mg/kg of body weight. Therefore, BAS
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5. REVIEWED BY:

Kimberly D. Rhodes
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature: *Kimberly D. Rhodes*
Date: *August 31, 1989*

6. APPROVED BY:

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Wildlife Toxicologist
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Signature: *Michael L. Whitten*
Date: *8-31-89*

Henry T. Craven, M.S.
Supervisor, EEB/HED
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Signature: *Henry T. Craven*
Date: *4/9/88*

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8. RECOMMENDATIONS: N/A

9. BACKGROUND:

10. DISCUSSION OF INDIVIDUAL TESTS: N/A

11. MATERIALS AND METHODS:

- A. Test Animals: Bobwhite quail (Colinus virginianus), phenotypically indistinguishable from wild birds, were adapted to housing conditions for 22 days prior to test initiation. The birds were offered a commercial poultry diet and water ad libitum throughout the adaptation period and during the test with the exception of a fasting period of 15 to 20 hours prior to dosing. The birds were thoroughly inspected for health one day after arrival in the laboratory, during allocation to the test cages, and shortly before administration of the test compound. The animal room temperature during adaptation was approximately 21°C with relative humidity between 60 and 70%. During adaptation, lighting was provided by fluorescent lights. A photoperiod of 12 hours of light and 12 hours of darkness was provided each day.
- B. Test System: During testing, birds were housed in stainless steel wire mesh cages (0.59 X 0.45 X 0.26 m) with a wire mesh floor with an area approximately 0.26 m². Lighting in the room was provided by fluorescent lights. A photoperiod of 12 hours of light and 12 hours of darkness was provided each day. An air-conditioned room controlled the temperature at 21°C. The relative humidity was between 60 and 70%.
- C. Dosage: 14-day single-dose oral LD50 test.
- D. Design: Ten bobwhite quail (five males and five females) approximately 5 months old were randomly assigned to a carrier control group and each of three test groups. The three nominal dose levels used in this study were 500, 1,000 and 2,000 mg/kg of body weight. Each test group contained 100 grams of a dispersion in 0.5% aqueous carboxymethylcellulose (CMC). Birds were fasted for 15 to 20 hours prior to administration of the test substance. The test substance, dispersed in 0.5% aqueous CMC preparation, was administered to the birds by gavage into the crop. The control birds received 0.5% CMC preparation only. An observation period of 14 days followed, during which mortalities and signs of toxicity were recorded.

Individual body weights were determined and the group means were calculated separately for male and female birds on day 0 and 14 of the study. Mean feed consumption was calculated from the daily feed consumption per cage separately for male and female birds. All birds were sacrificed by CO₂ asphyxia at the termination of the study and subjected to gross post-mortem necropsy.

E. Statistics: The LD50 was determined to be greater than the highest test concentration since no mortality occurred during this study. Statistical evaluation of the body weights was performed by one-way analysis of variance (ANOVA) followed by Dunnett's test.

12. REPORTED RESULTS: No mortalities occurred in the control or the test groups (500, 1,000 and 2,000 mg/kg). All birds were in good health during the entire study period in the control group and in the 500 and 1,000 mg/kg body weight treatment groups. The quail in the 2,000 mg/kg group showed soft feces on the day of administration. In general the male and female birds of the 2,000 mg/kg group were in good health and the soft feces is not regarded to be a relevant toxic sign.

The mean total feed consumption/bird/day during the 14-day observation period was in the same order of magnitude in the males and females of all test groups. The initial feed consumption/bird/day was slightly reduced on day one in the males and females in the 500, 1,000, and 2,000 mg/kg groups, dose dependent. This is not regarded to be a relevant toxic sign.

There was no statistically significant reduction in body weight in the birds of all test groups (male and female) on day 14. All birds were examined macroscopically and no abnormalities were detected.

13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES: The acute oral median lethal toxicity (LD50) of Registration Number 150 732 is greater than 2,000 mg/kg body weight for male and female bobwhite quail. The NOEC is 2,000 mg/kg body weight.

A GLP compliance statement was included in the report and the study was audited by a QA unit. A statement of quality assurance was included in the report, indicating that the study was conducted in accordance with U.S. EPA Good

Laboratory Practice Standards: Pesticide Programs (40 CFR 160).

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

A. Test Procedure: The test procedures were in accordance with protocols recommended by the Guidelines with the exception of the following discrepancies:

- o The test material was identified as "Reg. Nr. 150 732." The chemical name should be provided in the study.
- o The dose levels should be identified as to the mg of a.i. per kg of body weight (table 3.3.4.).

B. Statistical Analysis: Statistical analysis was not needed since no mortality occurred during the study.

C. Discussion/Results: This study appears to be scientifically valid. The acute oral LD50 value of BAS 514 H was determined to be greater than 2,000 mg/kg of body weight. Therefore, BAS 514 H is considered practically non-toxic to bobwhite quail (Colinus virginianus).

D. Adequacy of the Study:

- (1) Classification: Core.
- (2) Rationale: N/A.
- (3) Repairability: N/A.

15. COMPLETION OF ONE-LINER: Yes. August 30, 1989.

Study/Species/Lab/ Accession 14-Day Single Dose Oral LD50 Chemical Quinclorac 98.27% 98.27% Results: LD50 = mg/kg (95% C.L.) Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Age (Days) = _____ Sex = _____
Lab _____ 14-Day Dose Level mg/kg/(% Mortality) _____
Acc. _____ Comments: _____

14-Day Single Dose Oral LD50 LD50 = 2000 mg/kg. (95% C.L.) Contr. Mort. (X) = 0
Species Colinus virginianus slope = N/A # Animals/Level = 10 Age (Days) = _____ Sex = 5M
Lab BASF Department of Toxicology 14-Day Dose Level mg/kg/(% Mortality) _____
Acc. 410635-47 Comments: Based on nominal concentrations.

L. L. Core
8/30/89

8-Day Dietary LC50 LC50 = _____ ppm (95% C.L.) Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Age (Days) = _____ Sex = _____
Lab _____ 8-Day Dose Level ppm/(% Mortality) _____
Acc. _____ Comments: _____

8-Day Dietary LC50 LC50 = _____ ppm (95% C.L.) Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Age (Days) = _____ Sex = _____
Lab _____ 8-Day Dose Level ppm/(% Mortality) _____
Acc. _____ Comments: _____

48-Hour LC50 LC50 = _____ pp (95% C.L.) Contr. Mort. (X) = _____ Sol. Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Temperature = _____
Lab _____ 48-Hour Dose Level pp/(% Mortality) _____
Acc. _____ Comments: _____

96-Hour LC50 LC50 = _____ pp (95% C.L.) Contr. Mort. (X) = _____ Sol. Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Temp. = _____
Lab _____ 96-Hour Dose Level pp/(% Mortality) _____
Acc. _____ Comments: _____

96-Hour LC50 LC50 = _____ pp (95% C.L.) Contr. Mort. (X) = _____ Sol. Contr. Mort. (X) = _____
Species _____ Slope = _____ # Animals/Level = _____ Temp. = _____
Lab _____ 96-Hour Dose Level pp/(% Mortality) _____
Acc. _____ Comments: _____

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Pages _____ through _____ are not included.

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