

2/9/93

DP Barcode : D183382
PC Code No : 018301
EEB Out :

To: Walter Waldrop
Product Manager 71
Special Review and Reregistration Division (H7508W)

From: Anthony F. Maciorowski, Chief
Ecological Effects Branch/EFED (H7507C)

Attached, please find the EEB review of...

Reg./File # : 018301
Chemical Name : Chlorpropham
Type Product : Herbicide
Product Name : Chlorpropham Technical
Company Name : Chlorpropham Task Force
Purpose : Submission of acute avian dietary study in support of reregistration.

Action Code : 627 Date Due : 01/08/93
Reviewer : H. Mansfield Date In : 10/14/92

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)	424904-01	Y	72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)			123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)			124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur
P=Partial (Study partially fulfilled Guideline but additional information is needed)
S=Supplemental (Study provided useful information but Guideline was not satisfied)
N=Unacceptable (Study was rejected)/Nonconcur

DATA EVALUATION RECORD

1. **CHEMICAL:** Chlorpropham.
Shaughnessey No. 018301.
2. **TEST MATERIAL:** Chlorpropham; Barrel B; Aliquot No. 113;
98.1 ±0.5% purity; a white solid.
3. **STUDY TYPE:** 71-2. Avian dietary LC₅₀ test. Species
Tested: Bobwhite quail (*Colinus virginianus*).
4. **CITATION:** Campbell, S.M. and S.P. Lynn. 1992.
Chlorpropham (CIPC): A Dietary LC₅₀ Study with the Northern
Bobwhite. Conducted by Wildlife International, Ltd.,
Easton, MD. Project No. 292-101. Submitted by Chlorpropham
Task Force, Liberty, MO. EPA MRID No. 424904-01.
5. **REVIEWED BY:**

Charles G. Nace Jr., M.S. Associate Scientist KBN Engineering and Applied Sciences, Inc.	Signature: <i>Charles G Nace Jr.</i> Date: 11/16/92
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6. **APPROVED BY:**

Michael L. Whitten, M.S. Wildlife Toxicologist KBN Engineering and Applied Sciences, Inc.	Signature: <i>Michael L. Whitten</i> Date: 11/18/92
Henry T. Craven, M.S. Supervisor, EEB/EFED USEPA	Signature: <i>Heather Mendenhall 1/22/93</i> <i>Henry T. Craven</i> Date: 2/7/93
7. **CONCLUSIONS:** This study is scientifically sound and
fulfills the requirements for a dietary LC₅₀ study using
northern bobwhite quail (*Colinus virginianus*). The LC₅₀ was
greater than 5,620 ppm (nominal concentration), which
classifies chlorpropham as practically non-toxic to northern
bobwhite quail. The no-observed-effect concentration (NOEC)
was 5,620 ppm (nominal concentration).
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 10-day old northern bobwhite quail (*Colinus virginianus*) obtained from in-house flocks. All of the birds were from the same hatch, pen-reared, and phenotypically indistinguishable from wild birds. The birds could not be differentiated by sex. The birds were acclimated to the caging and test facilities from hatch and appeared to be in good health at the initiation of the test.
- B. Test System:** The pens were housed indoors and were constructed of galvanized wire and sheeting (72 x 90 x 23 cm). A photoperiod of 16 hours daylight and 8 hours dark was maintained with fluorescent lights which closely approximated noon-daylight at an intensity of 401 lux. The brooder temperature was maintained at 36 \pm 1°C, ambient temperature was 23.4 \pm 1.3°C, and relative humidity averaged 56 \pm 15%.
- C. Dosage:** Eight-day dietary LC₅₀ test. Based on preliminary data, five nominal concentrations of 562, 1,000, 1,780, 3,160, and 5,620 parts per million (ppm) and three corn oil controls were selected for the test. Test concentrations were not adjusted for percent purity of the test material.
- D. Design:** Groups of ten birds were assigned by indiscriminate draw, without regard to sex, to each of five treatment groups and three control groups. All birds were fed a game bird ration formulated to in-house standards. Food and water were supplied *ad libitum* throughout the test.

The test diets were prepared by mixing the test substance into the diet with corn oil. The concentration of corn oil in the treated and control diets was 2%. The diets were prepared on the day of test initiation. The birds were fed the appropriate diet for 5 days (the exposure period) and untreated food for the 3 day observation period.

Samples of the diets were taken for analysis to confirm the stability and homogeneity of the test substance in the diets. Samples were frozen and transferred to Wildlife International, Ltd. Analytical Laboratory for analysis using high performance liquid chromatography (HPLC).

Birds were weighed by group at initiation, Day 5, and at the termination of the study. Food consumption was recorded by group during the five-day exposure period and the three-day post-exposure period. Mortality and symptoms of toxicity were recorded twice daily throughout the study.

E. Statistics: Statistical analysis was not used due to the absence of mortality in all treatment groups. An estimation of the LC₅₀ was made by visual inspection of the mortality data.

- 12. REPORTED RESULTS:** The analytical results were reported in Appendix III. Samples collected at the low and high concentrations were homogeneously mixed (CV = 7.4% and 3.9%, respectively) and averaged 93.5% of nominal values (Appendix III, Table 3, attached). Samples collected on Day 5 for stability averaged 100.4% of nominal values (Appendix III, Table 7, attached). The test diet concentrations at test initiation averaged 94% of nominal values (Appendix III, Table 8, attached).

There were no mortalities in the control groups or treatment groups and the birds appeared normal throughout the study (Tables 1 and 2, attached).

The birds in the treatment groups showed no symptoms of toxicity during the test period. There were no treatment effects in body weight gain or reduction in food consumption at any treatment level (Tables 3 and 4, attached).

- 13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**
"The dietary LC₅₀ value for northern bobwhite exposed to chlorpropham was determined to be greater than 5620 ppm, the highest concentration tested. The no mortality and no observed effect level was 5620 ppm."

Good Laboratory Practice and Quality Assurance Inspection statements were included in the report indicating compliance with EPA Good Laboratory Practice Standards, 40 CFR Part 160, under the Federal Insecticide, Fungicide, and Rodenticide Act.

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

A. Test Procedure: This study followed procedures outlined in the SEP, ASTM, and Subdivision E Guidelines, except for the following deviations:

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

Necropsies were not performed. This is not required, but recommended.

- B. Statistical Analysis:** The reviewer's LC₅₀ value was the same as the author's (>5,620 ppm), based on no mortality observed at any of the levels tested.
- C. Discussion/Results:** This study is scientifically sound and fulfills the requirements for a dietary LC₅₀ study using northern bobwhite quail (*Colinus virginianus*). The LC₅₀ was greater than 5,620 ppm (nominal concentration), which classifies chlorpropham as practically non-toxic to northern bobwhite quail. The NOEC was 5,620 ppm (nominal concentration).
- D. Adequacy of the Study:**
- (1) Classification: Core.
 - (2) Rationale: N/A.
 - (3) Repairability: N/A.

15. COMPLETION OF ONE-LINER: Yes; 11/13/92.

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Pages 6 through 11 are not included.

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