

US EPA ARCHIVE DOCUMENT

71-1 2/23/81
Quail
AcuteDATA EVALUATION RECORD

1. CHEMICAL: CGA-64250
2. FORMULATION: Technical - 91%
3. CITATION: Beavers, J. (1980) Acute Oral LD50 - Bobwhite Quail-
CGA-64250 Technical - Final Report; received 1/28/81
under 100-618; unpublished report prepared by Wildlife
International Ltd. for CIBA-GEIGY Corporation, Greens-
boro, NC (in acc # 244273)
4. REVIEWED BY: Stephen M. Hopkins
Plant Physiologist
Ecological Effects Branch/HED
5. DATE REVIEWED: 2/23/81
6. TEST TYPE: Avian acute oral LD50 - Bobwhite quail
7. REPORTED RESULTS:

MELSD 00079689

The author demonstrated that the acute oral LD50 of the test material to bobwhite quail is 2825 mg/kg, with a 95% confidence interval of 1756-4546 mg/kg.

8. REVIEWER'S CONCLUSIONS:

This study is scientifically sound, and meets EPA requirements for an avian acute oral LD50 study.

Testing Laboratory Report

A. Test Procedure

Protocol generally followed EPA proposed guidelines of July 10, 1978. Some specifics of note include:

Age of test birds - 5 Months

Number of birds - 10 Per treatment (5M + 5F)

Duration of test - 14 Days

Treatment levels - 398, 631, 100, and 2510 mg/kg, plus a corn-oil control

Conditions - Birds were housed indoors in battery brooders at a temperature of 65-75°F with 14 hours of light per day

Test initiation - August 11, 1980

B. Statistical Analysis

Mortality was analyzed by the probit method.

C. Results

<u>Concentration</u>	<u>Mortality</u>
Control	0
398 mg/kg	0
631	0
1000	10%
1590	0
2510	50%

Lethargy was noted on day 2 at the 398 mg/kg dose level, and on days 2 and 3 at the 631 mg/kg level. Lethargy and reduced reaction to stimuli were noted through day 8 at the 1000 mg/kg level. Birds at the 1590 and 2510 mg/kg levels exhibited those symptoms as well as a loss of coordination, lower limb weakness, and wing droop with gradual improvement resulting in no symptoms by day 9 and 12, respectively. There was a dose-related reduction in feed consumption and body weight gain at the 4 highest levels which improved during the second week. The author calculated an LD₅₀ of 2825 mg/kg, with a 95% confidence interval of 1756-4546 mg/kg.

Reviewer's Evaluation

A. Test Procedure

The procedure generally followed the 1978 EPA guidelines.

B. Statistical Analysis

Mortality was analyzed in EEB using the probit method, the results of which agreed with the findings of the testing laboratory.

C. Results/Discussion

The author demonstrated that the acute oral LD₅₀ of CGA-64250 to bobwhite quail is 2825 mg/kg, with confidence limits of ~~1756-4546~~ mg/kg.
atm 2510

D. Conclusions

1. Category: Core
2. Rationale: NA
3. Repairability: NA

Bobwhite acute oral LD50

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CONC.      NUMBER      NUMBER      PERCENT      BINOMIAL
           EXPOSED     DEAD        DEAD         PROB.(PERCENT)
2510       10              5           50           62.3047
1590       10              0           0            9.76563E-2
1000       10              1           10.          1.07422
631        10              0           0            9.76563E-2
398        10              0           0            9.76563E-2
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THIS DATA SET DOES NOT MEET THE CRITERIA ESTABLISHED BY THE COMMITTEE ON METHODS FOR TOXICITY TESTS WITH AQUATIC ORGANISMS BECAUSE NO PERCENT DEAD IS GREATER THAN 65 PERCENT.

THE BINOMIAL TEST SHOWS THAT 1590 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 2510.

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS SET OF DATA BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

-----RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
6	.679858	1	.306581

SLOPE = 4.10195
 95 PERCENT CONFIDENCE LIMITS = .719747 AND 7.48415

LC50 = 2825.06
 95 PERCENT CONFIDENCE LIMITS = 2043.67 AND 25069.
