

US EPA ARCHIVE DOCUMENT

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DATA EVALUATION RECORD

PAGE 1 OF

CASE: GS0333

FENAMIPHOS

CONT-CAT: 01 GUIDELINES: 71-2

MRID: 25959

Nelson, D.L.; Burke, M.A. (1977) Dietary Toxicity of Namacur Technical to Bobwhite Quail: Report No. 54042. (Unpublished study received March 28, 1979 under 3125-236; submitted by Mobay Chemical Corp., Kansas City, MO; CDL:237905-F).

REVIEW RESULTS:

VALID X INVALID _____ INCOMPLETE _____

GUIDELINE: SATISFIED X PARTIALLY SATISFIED _____ NOT SATISFIED _____

DIRECT RVW TIME = START DATE: END DATE:

REVIEWED BY: Richard W. Felthousen

TITLE: Wildlife Biologist

ORG: EEB/HED

LOC/TEL: 557-1392

SIGNATURE: *R. W. Felthousen* DATE: 12/03/86

APPROVED BY: O. Gutenson

TITLE: Acting Registration Standard Coordinator

ORG: EEB/HED

LOC/TEL:

SIGNATURE: *O. Gutenson* DATE: *12/21/87*

This study is scientifically sound and demonstrates that Namacur is highly toxic to the bobwhite quail. The dietary LC50 with 95% confidence limits was found to be 38 ppm (32-47). This study satisfies the data requirement for an avian LC50 test.

DATA EVALUATION RECORD

1. CHEMICAL: Nema-cur
2. FORMULATION: 88% Technical
3. CITATION: Nelson, D.L. and M.A. Burke (1977). Dietary Toxicity of Nema-cur Technical to Bobwhite Quail. Unpublished report No. 54042 submitted by Mobay Chemical Corporation, Kansas City, Mo.
4. REVIEWED BY: L.W. Touart
Fisheries Biologist
EEB/HED
5. DATE REVIEWED: 12/17/79
6. TEST TYPE: Avian dietary LC₅₀ (upland game)
 - A. TEST SPECIES: Bobwhite Quail
7. REPORTED RESULTS: A dietary LC₅₀ of 38 ppm was determined with 95% confidence limits of 32 to 47 ppm.
8. REVIEWERS CONCLUSIONS: The study is scientifically sound and demonstrates that Nema-cur is toxic to Bobwhite Quail with a dietary LC₅₀ of 36 ppm with 95% confidence limits of 31 to 45 ppm. The study does fulfill the requirements for an avian dietary LC₅₀ study.

Materials/Methods

Protocol generally followed EPA proposed guidelines of July 10, 1978. Some specifics of note include: Age of Test Bird 13 days at the start of the test. Levels 10, 15, 22, 32, 47 and 69 ppm with negative controls. Duration of Test 5 day exposure plus 3 day observation. Environmental conditions not available.

Statistical Analysis

LC₅₀ values were calculated by the method of Carol A. Weil in Biometrics, September 1952, Vol. 8, No. 3.

Discussion/Results

<u>Concentration (ppm)</u>	<u>Mortality No of Deaths/No. Tested</u>	<u>Time</u>
Control	0/10	
10	2/10	
15	0/10	
22	1/10	8 days
32	3/10	
47	7/10	
69	10/10	

The LC₅₀ was determined to be 38 ppm with 95% confidence limits of 32 to 47 ppm. Signs of toxicity included wing drop, ataxia and immobility.

Reviewers Evaluation

A. Test Procedures

The test procedure generally complies with the recommended EPA 1978 protocol. The report did not document the environmental conditions of the test.

B. Statistical Analysis

The LC₅₀ was validated with the moving average method. See attached.

C. Discussion/Results

The LC₅₀ has been validated as 36 ppm with 95% confidence limits of 31 to 45 ppm.

D. Conclusions

1. Category: Core
2. Rationale: N/A
3. Repairability: N/A

Nemacur - Bobwhite Quail - LC50

79/12/17. 12.03.40.
 BASIC PROGRAM S79LC50

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CONC.      NUMBER      NUMBER      PERCENT      BINOMIAL
           EXPOSED     DEAD        DEAD         PROB.(PERCENT
           10          10          100          9.76563E-2
           47          7           70.          17.1875
           32          3           30.          17.1875
           22          1           10.          1.07422
           15          0           0.           9.76563E-2
           10          2           20.          5.46875
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THE BINOMIAL TEST SHOWS THAT 0 AND 69 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 38.7814

-----RESULTS CALCULATED USING THE MOVING AVERAGE METHOD
 SPAN 4 G LC50 36.3745 95 PERCENT CONFIDENCE LIMITS 30.6366 44.6373

-----RESULTS CALCULATED USING THE PROBIT METHOD
 ITERATIONS 8 G H GOODNESS OF FIT PROBABILITY 4.77414E-3

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = 3.50034
 95 PERCENT CONFIDENCE LIMITS = -.811124 AND 7.8118

LC50 = 34.4855
 95 PERCENT CONFIDENCE LIMITS = 0 AND +INFINITY

SRI 1.309