DATA EVALUATION RECORD PAGE 1 OF

CASE: GS0333 FENAMIPHOS

CONT-CAT: 01 GUIDELINES: 71-1

MRID: 25963

Lamb, D.W.; Jones, R.E. (1978) Acute Oral Toxicity of Nemacur and Metabolites (Sulfoxide and Sulfone) to Quail and Ducks: Report No. 66158. (Unpublished study received March 28, 1979 under 3125-236; submitted by Mobay Chemical Corp., Kansas City, MO; CDL:237905-J).

REVIEW RESULTS:

VALID_____ INVALID__X__ INCOMPLETE_____

GUIDELINE: SATISFIED ___ PARTIALLY SATISFIED ___ NOT SATISFIED _X_

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: 12/01/86

APPROVED BY: O. Gutenson

TITLE: Acting Registration Standard Coordinator

ORG: EEB/HED

LOC/TEL:

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

The study is not scientifically sound, as an inadequate number of test animals were used. The observation period should be a minimum of 14 days after administering the test dose.

4 pages

DATA EVALUATION RECORD

1. CHEMICAL: Nemacur

2. FORMULATION: Nemacur Technical (88%); Metabolites (Sulfoxide and Sulfone)

3. CITATION: Lamb, D.W. and R.E. Jones (1978) Acute Oral Toxicity of Nemacur and Metabolites (Sulfoxide and Sulfone) to Quail and Ducks. Unpublished report No. 66158 submitted by Mobay Chemical Corporation, Kansas City, MO.

4. REVIEWED BY: L.W. Touart
Fisheries Biologist
EBB/HED

5. DATE REVIEWED: 12/18/79

6. TEST TYPE: Avian Acute Oral

A. TEST SPECIES: 1. Bobwhite Quail 2. Mallard Ducks

7. REPORTED RESULTS: Acute oral LD_{50} values and 95% confidence limits for Nemacur Technical and metabolites (sulfoxide and sulfone) are as follows:

Quail	Technical	M	0.7 mg/kg	0.5 - 0.8 mg/kg
		F	0.9	0.7 - 1.1
	Sulfoxide	M	1.8	1.4 - 2.3
		F	1.8	1.4 - 2.3
	Sulfone	M	1.9	1.2 - 3.1
		F	4.3	3.2 - 5.8
Duck	Technical	M	1.1	0.9 - 1.3
		F	1.2	0.9 - 1.6
	Sulfoxide	M	1.5	0.9 - 2.4
		F	1.5	1.2 - 1.8
	Sulfone	M	1.1	0.8 - 1.5
		F	1.3	1.0 - 1.8

8. REVIEWERS CONCLUSIONS: The study did not follow the suggested protocol as found in the proposed guidelines of July 1978. Observation period and number of birds/level were insufficient. The study does not fulfill the requirements for an avian acute oral LD_{50}.

Materials/Methods

Test Procedures

The technical of Nemacur and two metabolites (sulfoxide and sulfone) were tested in Bobwhite Quail and Mallard Ducks. Four birds of each sex were used on each level. The birds were fasted for 17 to 24 hours and dosed with a solution of propylene glycol 80% and ethanol 20% with appropriate concentration of compound. Test birds were housed in wire covered outside pens under ambient conditions. Ambient temperature ranged from 13 to 67° F.

Statistical Analysis

Approximate LD_{50} values and 95% confidence limits were calculated according to a method by Carol S. Weil, Biometrics Vol. 8, No. 3, 1952.

Discussion/Results

Time of death data indicates that these compounds are fast acting. Toxic signs exhibited by both species were fluffed feathers, tremors, labored breathing, hypoactivity and complete immobility. Acute oral LD_{50} values and 95% confidence limits are Nemacur Technical and metabolites (sulfoxide and sulfone) are as follows:

Species	Compound	Sex	LD50 (mg/kg)	95% Confidence Limits (mg/kg)
Quail	Technical	M	0.7	0.5 to 0.8
		F	0.9	0.7 to 1.1
	Sulfoxide	M	1.8	1.4 to 2.3
		F	1.8	1.4 to 2.3
	Sulfone	M	1.9	1.2 to 3.1
		F	4.3	3.2 to 5.8
Duck	Technical	M	1.1	0.9 to 1.3
		F	1.2	0.9 to 1.6
	Sulfoxide	M	1.5	0.9 to 2.4
		F	1.5	1.2 to 1.8
	Sulfone	M	1.1	0.8 to 1.5
		F	1.3	1.0 to 1.8

Reviewers Evaluation

A. Test Procedure

The test procedure does not comply with the recommended EPA 1978 protocol. The observation period was for 96 hours after dose administration and only eight birds/level were tested. The observation period should be a minimum of 14 days and a minimum of 10 animals/level is essential for statistically meaningful data.

B. Statistical Analysis

N/A

C. Discussion/Results

The study is not scientifically sound, as an inadequate number of test animals were used. The observation period should be a minimum of 14 days after administering the test dose.

D. Conclusions

1. Category: Invalid

2. Rationale: Inadequate observation period and number of test animals

3. Repairability: No.