DATA EVALUATION SHEET

1. CHEMICAL: DS-3701

2. FORMULATION: The primary metabolite of chlorothalonil, 4-hydroxy-2,5,6-trichloroisophthalonitrile

3. CITATION:

Beavers, Joann B., 1978. Acute oral toxicity of DS-3701 in the Mallard Duck. Received February 19, 1980. An unpublished report prepared by Wildlife International, Ltd. for Diamond Shamrock Corporation. (Acc. No. 099247)

4. REVIEWER: Daniel Rieder
Wildlife Biologist
EEB/HED

5. REVIEW DATE: April 10, 1980

6. TEST TYPE: Avian Acute Oral Toxicity

A. Test Species: Mallard Duck (Anas platyrhynchos)

B. Test Material: DS-3701 (87% pure)

7. REPORTED RESULTS

The study reported an LD_{50}, for 14-day old mallard ducks treated with D5-3701, of 158 mg/kg body weight, with 95% confidence limits of 125 to 201 mg/kg.

8. REVIEWERS CONCLUSION

A. Validation Category: Core for degradate acceptable (14 days old is ~~dead~~)

B. Discussion

This study was scientifically conducted and fulfills the requirements for an avian acute oral toxicity test. DS-3701 would appear to be moderately toxic to 14-day old mallard ducks.

METHODS/RESULTS

A. Test Procedures

Fourteen-day old mallard ducks were used for the acute oral toxicity test. Test temperature was maintained at 22°C, and the photoperiod was 14 hours of light per day throughout the study. The following table indicates the treatment, number of pens and birds per pen, and the dosage level in mg of material to kg of body weight.

Treatment	Pens	Birds/pen	Dosage level (mg/kg)
Control	5	10	Corn-oil only
Lab Standard (dieldrin)	5	10	14.7, 21.5, 31.6, 46.6, & 68.2
Experimental (DS-3701)	5	10	46, 100, 215, 464, & 1000

Each bird was individually weighed and dosed, by direct intubation, according to dosage levels stated above.

B. Statistical Analysis

The acute oral LD_{50} was calculated using the probit method of statistical analysis.

C. Results

No deaths occurred in any of the control pens. The acute oral LD_{50} for the laboratory standard, dieldrin, was 36 mg/kg, with 95% confidence limits between 29 to 44 mg/kg.

The acute oral LD_{50} for DS-3701 in 14-day old mallard ducks was 158 mg/kg, with 95% confidence limits of 125 to 201 mg/kg. The highest dose level at which no deaths occurred was 46 mg/kg. All birds died with dose levels of 464 mg/kg and 1000 mg/kg.

REVIEWER'S EVALUATION

A. Test Procedure

The reported laboratory procedure complies with the EPA proposed guidelines except that the mallard ducks should have been at least 16 weeks old at the start of testing.

Concentration mg/kg	#Tested	Mortality
Control	50	0
46	10	0
100	10	1
215	10	8
464	10	10
1000	10	10

B. Statistical Analysis

The data provided were used to perform an independent statistical analysis of the acute oral LD_{50} of DS-3701 in 14-day old mallard ducks. The results are attached to the original review.

C. Discussion

The acute oral LD_{50} of DS-3701 in 14-day old mallard ducks was calculated to be 158 mg/kg with 95% confidence limits of 117 and 213 mg/kg. This calculation is essentially the same as that reported in the study. DS-3701, the primary metabolite of chlorothalonil, is considered moderately toxic to 14-day old mallard ducks.

D. Conclusion

1. Category: Core for DS-3701

2. Rationale

Even though the ducks used in this test were your[illegible] than what is normally used, the test will be ac[illegible]e too because it is likely that the younger ducks ar[illegible] at least if not more sensitive to toxicants than [illegible] birds. Also, although the test material was [illegible] technical of an active ingredient, the test [illegible] accepted because it was a specific request w[illegible] primary degradate.

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