

US EPA ARCHIVE DOCUMENT

1. Chemical: Cypermethrin
2. Formulation = Technical, 92.9%
3. Citation: Ross, D.B., D.M. Cameron, N.L. Roberts (1977).  
The Acute Oral Toxicity (LD<sub>50</sub>) of PP383 to the  
Mallard Duck. Huntington Research Centre  
Report No. ICI 128WL/7733, August 1977. (Accession No.  
241598)
4. Reviewed by: Carol Matti Natella  
Wildlife Biologist  
EEB/HED
5. Date Reviewed: April 3, 1980
6. Test Type: Avian acute oral LD<sub>50</sub>  
Test Species: Mallard Duck
7. Reported Results: LD<sub>50</sub> (males) > 10,248 mg/kg  
LD<sub>50</sub> (females) > 12,085 mg/kg
8. Reviewer's Conclusions:

The study is scientifically sound and indicates that technical  
Cypermethrin is practically non-toxic to mallard ducks.

## Materials/Methods

### Test Procedures

A protocol was used which followed E.P.A. guidelines. The birds were housed individually in metal cages measuring 40x40x50 cm. The ambient temperature was maintained at 15 C and the ventilation fans were adjusted to allow fifteen air changes per hour. The compound was administered by oral gavage; care was taken to ensure that the bird had ingested all of the compound before being returned to its cage. All birds were subdued for 1-2 hours after dosing.

### Statistical Analysis

It was not possible to establish an LD<sub>50</sub> for Cypermethrin to the mallard duck because the test resulted in no mortalities.

### Discussion/Results

Sixteen birds of each sex were used in the initial range finding, which indicated that the compound was not toxic at the maximum practicable dose level of 10 ml of the material as supplied. In order to confirm these findings, twenty male and twenty female birds were allocated in groups of 10 and treated as follows:

<u>Group</u>	<u>Birds per group</u>	<u>Sex</u>	<u>Conc. (w/v%)</u>	<u>Dose volume (ml)</u>	<u>Dose level (mg/kg)</u>
1	10	M	0	10.0	0
2	10	M	100	10.0	*10,248
3	10	F	0	10.0	0
4	10	F	100	10.0	*12,085

\*Levels calculated for material as supplied. The corresponding values expressed as mg active ingredient per kg bodyweight are 9,520 mg/kg (males) and 11,227 mg/kg (females).

The post-dose observation period lasted for 21 days. No apparent reduction in food consumption was observed. No mortalities occurred. Several birds in the test groups attempted to vomit, but only one bird was seen to reject any of the dose material, and this appeared to be only a very small proportion of the dose. No other abnormal signs were observed, and the birds appeared to remain in good health throughout the study. No gross abnormalities were observed post-mortem.

The toxicity of Cypermethrin is evidently very low, the LD<sub>50</sub> value being >10,248 mg/kg (males) and >12,085 mg/kg (females).

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Reviewer's Evaluation

A. Test Procedures

The test procedure complies with EPA guidelines.

B. Statistical Analysis

No statistical analyses were performed on these data.

C. Conclusions

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

EEB/HED:NATELLA:RAVEN-479-2018:DCR-47371:pa1335P:05/15/80