DATA EVALUATION RECORD

1. CHEMICAL: α-butyl-α-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile

SHAUGHNESSY NUMBER 128857

2. TEST MATERIAL:

RH-53,866 Technical, 84.5% a.i.

3. STUDY IDENTIFICATION:

Fletcher, D.W., 1984. Eight-day dietary LC_{50} study with RH-53,866 technical in mallard ducklings. Bio-Life Associates Ltd. Neillsville, Wisconsin. Report #84RC15 EPA Eup Nos. 707-EUP-RNL and 707-EUP-RNU, Acc. No. 072894

4. STUDY TYPE:

Avian dietary LC_{50}

5. REVIEWED BY:

Robert W. Pilsucki 1/2/85
Microbiologist
Ecological Effects Branch/HED

6. APPROVED BY:

for Raymond Matheny
Head, Review Section 1

7. REPORTED CONCLUSIONS:

The dietary LC_{50} for mallard ducks was > 5000 ppm.

8. REVIEWER S CONCLUSIONS:

This study is scientifically sound and with an LC_{50} of > 5000 ppm RH-3866 is slightly toxic to mallard ducks. This study fulfills the requirement for an avian dietary LC_{50}.

9. MATERIALS AND METHODS:

Species: Mallard duck (Anas platyrhynchos)

Age of birds: 7 days

Source and rearing history:

Whistling Wings
Hanover, Illinois

Birds were obtained by Bio-Life Associates Ltd. at 2 days of age. A rearing history was not included. The birds were quarantined and allowed to acclimatize to laboratory conditions for 5 days.

Selection of test birds:

Birds were "arbitrarily" assigned to test groups (no references were made to randomization procedures). Groups were not balanced with respect to sex.

Housing conditions:

Temperature: 70-74°F (21-21°C)
Humidity: 35-58%
Lighting: 12 hr light/12 hr dark
Pen size: 61 cm x 121.9 cm x 121.9 cm

Weight gain and food consumption:

See attached tables.

Diet:

The birds were fed Purina Gamebird StarTeena during the test (ingredient listing not supplied). Test material residue measurements were made after mixing and are as follows:

Calculated Dose (ppm)	Actual Level Found (ppm)	Actual Calculated
312	270	0.87
625	620	0.99
1250	1250	1.00
2500	2220	0.89
5000	4090	0.82

Concurrent controls and diluent:

Five concurrent control groups were run along with the test doses. Each control group contained 10 birds. Diluent was mixed with the diet so that the concentration was equal to that used in the test groups. Control groups showed no mortality. The diluent used was acetone.

Number of birds/concentration: 10

Test duration:

5 days on treatment
3 days observation

Concentrations - mortalities:

Conc. (ppm)	Number Exposed	Number Dead	Percent Mortality
4090	10	1	10
2220	10	0	0
1250	10	0	0
620	10	0	0
270	10	0	0

Toxic Symptoms:

Birds at the two highest doses (2220 and 4090) were anorexic and lethargic from day 2 through day 3. They then appeared normal. Birds at other doses all appeared normal.

Necropsy:

Necropsies on the one dead bird and nine surviving birds from the highest dose level, and ten control birds showed no abnormal tissue results.

10. STATISTICAL ANALYSIS:

No statistical analysis was performed.

11. DISCUSSION:

There was no Discussion section in this study.

12. REVIEWER S EVALUATION:

Test Procedures: The test procedures generally follow EPA s guidelines for an avian dietary LC_{50} using mallard ducks.

Statistical analysis: Because no dose level resulted in 50% or greater mortality, a statistically meaningful LC_{50} could not be obtained.

Discussion: The conclusions reached generally are in agreement with those attained by EEB. The results show that RH-3866 is slightly toxic to mallard ducks under the conditions tested.

13. CONCLUSIONS:

Category: Core

Rationale: This study follows EPA s guidelines for an avian dietary LC_{50}.

Repairability: N/A

PILSUCKI RH 3866 AVIAN DIETARY LC50

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
4090	10	1	10	1.07422
2220	10	0	0	.0976563
1250	10	0	0	.0976563
620	10	0	0	.0976563
270	10	0	0	.0976563

THE BINOMIAL TEST SHOWS THAT 4090 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 0

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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