

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

- 1. **CHEMICAL:** Bayleton (Triadimefon).
Shaughnessey Number: Not available.
- 2. **TEST MATERIAL:** Bay Meb 6447; 1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4 triazol-1-yl)-2-butanone; 93% purity; Bayer batch # 5030047; a white granular material with a distinct odor.
- 3. **STUDY TYPE:** Avian dietary LC₅₀ test.
Species Tested: Mallard duck (Anas platyrhynchos).
- 4. **CITATION:** Fink, R. 1977. Final report, eight-day dietary LC₅₀ - mallard duck. Study performed by Wildlife International Ltd., Easton, Maryland. Laboratory study # 149-106. Submitted by Chemagro Agricultural Division, Mobay Chemical Corporation (Address not given). MRID No. ~~250~~ 000-50067.

5. **REVIEWED BY:**

Michael L. Whitten, M.S.
Wildlife Toxicologist
KBN Engineering and
Applied Sciences, Inc.

Signature: *Michael L. Whitten*

Date: 2-14-91

Pim/Kosawat 3-11-83

6. **APPROVED BY:**

Pim Kosalwat, Ph.D.
Senior Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature: *P. Kosalwat*

Date: 2/14/91

Henry T. Craven, M.S.
Supervisor, EEB/HED
USEPA

Signature: *Henry T. Craven*

Date: 4/13/93

7. **CONCLUSIONS:** The study is scientifically sound but does not fulfill the requirements for an avian dietary LC₅₀ test. Under the conditions of this study, and based upon nominal concentrations, the dietary LC₅₀ of Bayleton was greater than 10,000 ppm, the highest concentration tested. This value classifies Bayleton as practically non-toxic to 14-day old mallard ducklings. The NOEC could not be determined, due to reductions in body weight, gain and food consumption at all treatment concentrations.

8. **RECOMMENDATIONS:** N/A

9. BACKGROUND:

10. DISCUSSION OF INDIVIDUAL TESTS: N/A.

11. MATERIALS AND METHODS:

- A. Test Animals: The birds used in the study were 14-day old mallard ducklings (Anas platyrhynchos) hatched from eggs obtained from Wildlife International's own production flock.
- B. Test System: The pen facilities in which the birds were housed during the study, and the photoperiod to which the birds were exposed, were not described. The brooder temperature was maintained at 99.0°F.
- C. Dosage: 8-day dietary LC₅₀ test. Nominal concentrations were 464, 1000, 2150, 4640, and 10,000 parts per million (ppm). "For the purposes of diet preparation, the experimental material was assumed to be 100 percent active material."
- D. Design: Groups of ten birds were randomly assigned, without regard to sex, to each of five control groups, five laboratory standard (dieldrin) groups, and five treatment groups. All birds were fed a commercial game bird starter ration. Food and water were supplied ad libitum throughout the test.

The test substance and dieldrin were dissolved in corn oil and added to the basal feed. The concentration of the solutions in the treatment and dieldrin diets was 2% (by weight). The birds were fed the appropriate dietary concentrations for five days, and then given untreated food for three days. The control birds received the basal diet throughout the study.

Birds were weighed by pen at initiation and termination of the study. Food consumption was recorded by pen during the five-day exposure period. Mortality and symptoms of toxicity were recorded daily throughout the study.

- E. Statistics: Mortality in the dieldrin group was analyzed by the probit method of Litchfield and Wilcoxon. Due to the absence of mortality in all treatment groups, the LC₅₀ was not calculated.

12. **REPORTED RESULTS:** There was no mortality in the control groups, and the birds appeared normal throughout the study.

There was no mortality in any of the Bayleton treatment groups. The birds in the Bayleton treatment groups showed no symptoms of toxicity during the test period. There was a reduction in food consumption and body weight gain at 10,000 ppm (Table 1, attached).

The report provided results on mortality and symptoms of toxicity in the dieldrin group.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:** The author presented no conclusions, but included the following statement as a summary: "The acute LC₅₀ of Bayleton Technical in the Mallard duck is estimated to be greater than 10,000 ppm."

The report included no statements regarding quality assurance. One quality assurance measure was the inclusion of a laboratory standard treatment, commonly known as a positive, or reference control.

14. **REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:**

- A. **Test Procedure:** This study was conducted in 1977, before the current SEP, ASTM, and Subdivision E Guidelines were published. However, the test procedures were in accordance with current guidelines except for the following deviations:

The birds were 14 days of age at initiation of the study; the recommended age is 5 to 10 days.

The average ambient relative humidity was not reported.

A full description of the test facilities (construction material, dimensions) was not reported.

The photoperiod was not reported.

The concentration of test substance in the diet was not confirmed by chemical analysis. This is recommended, but not required.

The vehicle (corn oil) was not added to untreated diets. The control birds received only the basal diet throughout the study.

considered in any risk assessment of this chemical. Altered growth or development of birds caused by exposure to these concentrations in the wild might result in reduced survival rates.

The study is scientifically sound, but does not meet the requirements for an avian dietary LC₅₀ test, since the birds were older (and potentially more resistant to the test chemical) than the recommended age. Younger birds might have responded differently, particularly in view of the reduced body weight gain and food consumption seen at all treatment levels.

D. Adequacy of the Study:

- (1) **Classification:** Supplemental.
- (2) **Rationale:** The birds were older than the recommended age.
- (3) **Repairability:** No.

15. COMPLETION OF ONE-LINER: Yes; February 6, 1991.

R10 5710-93

TRIADMEFON EFB REVIEW

Page 5 is not included in this copy.

Pages _____ through _____ are not included.

The material not included contains the following type of information:

- Identity of product inert ingredients.
- Identity of product impurities.
- Description of the product manufacturing process.
- Description of quality control procedures.
- Identity of the source of product ingredients.
- Sales or other commercial/financial information.
- A draft product label.
- The product confidential statement of formula.
- Information about a pending registration action.
- FIFRA registration data.
- The document is a duplicate of page(s) _____.
- The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

Irishnessy No. Not available

Chemical Name Bayleton Chemical Class _____ Page 1 of 1
(Triadimefon)

Study/Species/Lab/ Accession	Chemical & a.i.	Results	Reviewer/ Date	Validatic Status
14-Day Single Dose Oral LD50		LD50 = mg/kg (<u>95% C.L.</u>) Contr. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Age (Days) = _____ Sex = _____		
Lab _____		14-Day Dose Level mg/kg/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

14-Day Single Dose Oral LD50		LD50 = mg/kg. (<u>95% C.L.</u>) Contr. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Age (Days) = _____ Sex = _____		
Lab _____		14-Day Dose Level mg/kg/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

3-Day Dietary LC50		LC50 > 19,000 ppm (<u>95% C.L.</u>) Contr. Mort. (X) = 0		
Species <u>Mallard</u> (<u>Anas platyrhynchos</u>)	<u>93%</u>	Slope = N/A # Animals/Level = 10 Age (Days) = 14 Sex = unknown	<u>M. Whitten</u>	<u>Supplemental</u> <u>2-6-91</u>
Lab <u>Wildlife International</u>		* 3-day Dose Level ppm/(% Mortality) 464 (0), 1,000 (0), 2,150 (0), 4,640 (0), 10,000 (0)		
Acc. <u>MRID #25-50067</u>		* Nominal values Comments: Reduced body weight gain + food consumption at all concentrations		

8-Day Dietary LC50		LC50 = ppm (<u>95% C.L.</u>) Contr. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Age (Days) = _____ Sex = _____		
Lab _____		8-Day Dose Level ppm/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

48-Hour LC50		LC50 = PP (<u>95% C.L.</u>) Contr. Mort. (X) = _____ Sol. Contr. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Temperature = _____		
Lab _____		48-Hour Dose Level pp/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

96-Hour LC50		LC50 = PP (<u>95% C.L.</u>) Con. Mort. (X) = _____ Sol. Con. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Temp. = _____		
Lab _____		96-Hour Dose Level pp/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

96-Hour LC50		LC50 = PP (<u>95% C.L.</u>) Con. Mort. (X) = _____ Sol. Con. Mort. (X) = _____		
Species _____		Slope = # Animals/Level = _____ Temp. = _____		
Lab _____		96-Hour Dose Level pp/(% Mortality) () () () () ()		
Acc. _____		Comments: _____		

Jan 6