

US EPA ARCHIVE DOCUMENT

DR Barcode: D237791

MRID No.: 442873-01

## DATA EVALUATION RECORD

S 71-1(A) - AVIAN SINGLE-DOSE LD<sub>50</sub> TEST

1. CHEMICAL: 2-chloro-4,6-bis(isopropylamino)-s-triazine  
PC Code No.: 080808
2. TEST MATERIAL: Propazine  
Purity: 98.0%

3. CITATION

Authors: C.E. Jameson; J. Veltri  
Title: Acute oral toxicity of propazine to  
bobwhite quail (*Colinus virginianus*)

Study Completion Date: 04/04/95

Laboratory: ABC Laboratories, Inc.

Sponsor: Griffin Corporation

Laboratory Report ID: ABC Lab #41757

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4. REVIEWED BY: Thomas M. Steeger, Ph.D., Fishery Biologist,  
EFED, ERB IV, U.S. EPA

Signature: *Thomas M Steeger*

Date: 10/2/94

5. APPROVED BY: Ann Stavola, Aquatic Biologist, EFED, ERB IV,  
U.S. EPA

Signature: *Ann Stavola*

Date: 10/15/94

6. STUDY PARAMETERS

Scientific Name of Test Organism: *Colinus virginianus*

Test Organisms Age/Size: 14 weeks

Definitive Study Duration: 360 hours

7. CONCLUSIONS: This study is scientifically sound and does fulfill the 71-1(A) guideline requirements for acute single-dose LD<sub>50</sub> toxicity tests for quail; however, feed consumption rates and growth were initially affected by Propazine treatments. No animals died at any dose levels tested; thus a statistical LD<sub>50</sub> could not be determined. The LD<sub>50</sub> is greater than the highest level tested, i.e., 1,640 mg a.i./kg. Quail treated with 430 mg a.i./kg and above exhibited depressed feed consumption and related slow growth up to 72 hours after receiving Propazine. Weight of Bobwhite Quail exhibited a significant negative correlation ( $P \leq 0.03$ ) with the dosage of Propazine up to 72 hours after treatment; by 14 days, differences in feed consumption and weight were no longer apparent. This observation is supported by acute dietary exposure data from quail and suggests a possible chemical-induced anorexia. Thus, if



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weight loss is considered up to 72 hours, a reasonable NOEL could be estimated at 244 mg a.i./kg.

Results Synopsis

LD<sub>50</sub>: >1,640 mg ai/kg  
NOEL: 244 mg ai/kg

95% C.I.: \_\_\_\_\_ - \_\_\_\_\_ mg ai/kg,  
Probit Slope: \_\_\_\_\_

8. ADEQUACY OF THE STUDY

A. Classification: Core

B. Rationale:

C. Repairability:

9. GUIDELINE DEVIATIONS

1. Quail were 14-wks old as opposed to the recommended 16 weeks.

2. Treatment group at 1,200 mg/kg contained 4 females and 5 males for a total of 9 quail as opposed to the recommended 10 animals (1 female quail discarded after receiving the wrong dose).

3. Instead of a liquid gavage dose, gelatin capsules were used to administer the test substance. A recorded amount of propazine was placed into a gelatin capsule and the remaining air spaces filled with powdered cellulose. Multiple capsules, i.e., 2 and 3 capsules, were required at the two highest dose levels, 1,200 and 2,000 mg/kg, respectively.

4. Group average weight was used to determine dose amounts. Precise capsule dosing of test material for each bird was viewed as impractical at the milligram level with the number of birds necessary to complete dosing.

5. On several days, the humidity fell below 30%, but not less than 20%.

10. SUBMISSION PURPOSE: To assess the acute oral toxicity of propazine to bobwhite quail.

11. MATERIALS AND METHODS

A. Test Organisms

Guideline Criteria	Reported Information
<b>Species:</b> A wild waterfowl species, preferably the mallard ( <i>Anas platyrhynchos</i> ), or an upland game bird species, preferably the bobwhite ( <i>Colinus virginianus</i> ).	<i>Colinus virginianus</i>
<b>Age at beginning of test:</b> At least 16 weeks old.	14 weeks
<b>Supplier</b>	Stevenson Game Bird Farm
<b>Acclimation period:</b> At least 15 days.	14 days

B. Test System

Guideline Criteria	Reported Information
<b>Pen facilities adequate?</b>	Yes
<b>Photoperiod:</b> 10-h light, 14-h dark is recommended.	8-hours light, 16-hours dark
<b>Diet was nutritious and appropriate for species?</b>	Yes
<b>Feed withheld at least 15 hours prior to dosing?</b>	Not reported; however, ABC Lab protocol states that birds would be fasted a minimum of 15 hr prior to dosing.

C. Test Design

Guideline Criteria	Reported Information
<b>Range finding test?</b>	Yes

Guideline Criteria	Reported Information
<p><b>Definitive Test</b>  <b>Nominal concentrations:</b>                      At least five, in a geometric scale, unless LD<sub>50</sub> &gt; 2000 mg ai / kg.</p>	<p>260, 430, 720, 1,200, and 2,000 mg/kg</p>
<p><b>Controls:</b>                      Water control or vehicle control (if vehicle is used)</p>	<p>Control and vehicle control</p>
<p><b>Number of birds per group:</b>                      10 (strongly recommended)</p>	<p>5 males + 5 females</p>
<p><b>Vehicle:</b>                      Distilled water, corn oil, propylene glycol, 1% carboxymethylcellulose, or gum arabic.</p>	<p>100% cellulose powder</p>
<p><b>Amount of vehicle per body weight:</b>                      Constant volume/weight % of body weight, not to exceed 1% (1ml/100g).</p>	<p>Not reported; however, ABC Lab SOP states that carrier should not exceed 5mL/kg; may go up to 8 ml/kg.</p>
<p><b>Observations period:</b>                      At least 14 days.</p>	<p>14 days</p>

12. REPORTED RESULTS

Guideline Criteria	Reported Information
<p>Quality assurance and GLP compliance statements were included in the report?</p>	<p>Yes</p>
<p>Individual body weights measured at beginning of test, on day 14 and at end of test if extended beyond 14 days?</p>	<p>Yes</p>

Guideline Criteria	Reported Information
Mean feed consumption measured at beginning of test, on day 14, and at end of test if extended beyond 14 days?	Yes
Control Mortality: Not more than 10%	0%
Raw data included?	Yes
Signs of toxicity (if any) were described?	Yes

Mortality

Dosage (mg/kg)	No. of Birds	Cumulative Number of Dead							
		Day of Study							
		1	2	3	4	5	6-8	9-11	12-14
Control	10	0	0	0	0	0	0	0	0
vehicle control	10	0	0	0	0	0	0	0	0
260	10	0	0	0	0	0	0	0	0
430	10	0	0	0	0	0	0	0	0
720	10	0	0	0	0	0	0	0	0
1200	10	0	0	0	0	0	0	0	0
2000	10	0	0	0	0	0	0	0	0

Other Significant Results: Quail receiving >260 mg/kg exhibited depressed food consumption up to 48 hours after dosing. These birds also exhibited reduced body weights up to 72 hours after dosing.

Reported Statistical Results

Statistical Method:

LD<sub>50</sub>: >2,000 mg/kg

95% C.I.: \_\_\_\_\_ - \_\_\_\_\_ mg/kg

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NOEL: \_\_\_\_\_ mg/kg      Probit Slope: \_\_\_\_\_

13. Verification of Statistical Results

Statistical Method: no mortality observed

LD<sub>50</sub>: >1,640 mg/kg      95% C.I.: \_\_\_\_\_ - \_\_\_\_\_ mg/kg

NOEL: 244 mg/kg      Probit Slope: \_\_\_\_\_

Adjusted for 100% active ingredient (optional if > 80% ai)

LD<sub>50</sub>: >1640 mg/kg ai      95% C.I.: \_\_\_\_\_ - \_\_\_\_\_ mg/kg

NOEL: 244 mg/kg ai

15. REVIEWER'S COMMENTS:

Although there were no significant differences in body weight between treatment groups after 336 hours, it is noteworthy that groups treated at 430 mg/kg and above exhibited depressed feed consumption and related slow growth up to 72 hours after receiving propazine. Relative amounts of vehicle (cellulose) are not reported.

Weight of Bobwhite Quail exhibited a significant negative correlation with the dose of Propazine (Pearson correlation coefficient = 0.0311) (note: the  $r^2$  value = 0.067).

ABC Laboratories did not report a NOEL; however, if weight loss is considered, a reasonable NOEL can be estimated at 244 ppm.