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9-22-98

DATA EVALUATION RECORD
§ 71-1(A) - AVIAN SINGLE-DOSE LD_{50} TEST

1. **CHEMICAL:** Chlorfenapyr Soil Metabolite, CL 303,267 PC Code No.: 444826-11

2. **TEST MATERIAL:** Pyrrole-3-carbonitrile,2-(p-chlorophenyl)-5-(triflouromethyl); Lot # AC7618 -148A, CAS No. 122454-23-3, yellow powder.
   Purity: 98.1% ± 0.5 %

3. **CITATION**

Authors:	J. A. Gagne, S. R. Mortensen, Md. Sayed Ahmed, and T. Harris.
Title:	Avian Single-Dose Oral LD50 Test with CL 303,267 in Northern Bobwhite (*Colinus virginianus*).
Study Completion Date:	Decmeber 10, 1997
Laboratory:	Genesis Laboratories, Inc., Wellington, CO
Sponsor:	American Cyanamid Company, Princeton, NJ
Laboratory Report ID:	ECO-97-251
MRID No.:	

4. **REVIEWED BY:** Regina Hirsch, Wildlife Ecologist, ERB1, EFED

   Signature: Regina Hirsch **Date:** 1/16/98

5. **APPROVED BY:** Arnet Jones, Chief, ERB1, EFED Second Review

   Signature: Arnett D Jones **Date:** 09/22/98

6. **STUDY PARAMETERS**

   Test Organisms Age/Size: 24 weeks old at test initiation
   Definitive Study Duration: 14 days

7. **CONCLUSIONS:**

   Results Synopsis
   LD_{50}: >2250 mg ai/kg
   NOEL: 2250 mg ai/kg

8. **ADEQUACY OF THE STUDY**

   A. Classification: Core.

   B. Rationale: N/A

C. Repairability: N/A

9. GUIDELINE DEVIATIONS

1. Nutritional content, and pesticide contaminant analyses of the feed and water used to maintain the Bobwhite Quail during holding, acclimation, and the test period, were not performed.

10. SUBMISSION PURPOSE: To support Chlorfenapyr registration and tolerance petition.

11. MATERIALS AND METHODS

A. Test Organisms

Guideline Criteria	Reported Information
Species: A wild waterfowl species, preferably the mallard (*Anas platyrhynchos*), or an upland game bird species, preferably the bobwhite (*Colinus virginianus*).	*Colinus virginianus*
Age at beginning of test: At least 16 weeks old.	24 weeks
Supplier	Barrett's Quail Farm, Houston, TX
Acclimation period: At least 15 days.	16 days

B. Test System

Guideline Criteria	Reported Information
Pen facilities adequate?	Yes
Photoperiod: 10-h light, 14-h dark is recommended.	10-h light, 14-h dark
Diet was nutritious and appropriate for species?	Yes

Guideline Criteria	Reported Information
Feed withheld at least 15 hours prior to dosing?	Yes

C. Test Design

Guideline Criteria	Reported Information
Range finding test?	Yes, with 5 treatment groups: 5, 25, 125, 625, and 2000 mg CL 303267/kg body weight. Results show that one bird from the 2000 mg ai/kg group showed signs of intoxication and subsequently died during the test.
Definitive Test **Nominal concentrations:** At least five, in a geometric scale, unless LD_{50} > 2000 mg ai / kg.	0, 292, 486, 810, 1350, and 2250 mg ai/kg
Controls: Water control or vehicle control (if vehicle is used)	Vehicle control (2 empty gelatin capsules/bird)
Number of birds per group: 10 (strongly recommended)	10 birds per group (5 males and 5 females)
Vehicle: Distilled water, corn oil, propylene glycol, 1% carboxymethylcellulose, or gum arabic.	gelatin capsule
Amount of vehicle per body weight: Constant volume/weight % of body weight, not to exceed 1% (1ml/100g).	2 gelatin capsules per bird
Observations period: At least 14 days.	14 days

12. REPORTED RESULTS

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Individual body weights measured at beginning of test, on day 14 and at end of test if extended beyond 14 days?	Yes, body weights were taken on day 0 (dosing day), 3, 7, and 14.
Mean feed consumption measured at beginning of test, on day 14, and at end of test if extended beyond 14 days?	Yes, feed consumption (grams/bird/day) was measured and data pooled for days 1-3, 4-7, and 8-14. Feed spillage was monitored daily to estimate the relative amounts of spillage for each treatment and control group pair.
Control Mortality: Not more than 10%	0%
Raw data included?	No
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
292	10	0	0	0	0	0	0	0	0
486	10	0	0	0	0	0	0	0	0
810	10	0	0	0	0	0	0	0	0
1350	10	0	0	0	0	0	0	0	0
2250	10	0	0	0	0	0	0	0	0

Other Significant Results: No test substance related mortality, moribundity, or signs of intoxication were observed in any of the definitive test birds. However, there were significant findings in body weights and feed consumption in test groups. Test group body weights were compared to vehicle control birds. It was found that on day 7 test group 2250 mg ai/kg had significantly decreased ($p=0.05$) from the control group. Overall, body weights decreased in test group 2250 mg ai/kg from day 0 to day 7 and then began to increase from day 7 to day 14, with the exception of two females in the group. Mean feed consumption (per bird per day) in all treatment groups was significantly lower than the control for days 1-3. In addition, feed consumption was significantly different in the two highest treatment groups for days 4-7. No significant differences in feed consumption were found during days 8-14 for any treatment group. Gross pathological examinations were conducted on 24 birds sacrificed at the end of the study. Two birds in the 2250 mg ai/kg body weight treatment group showed signs of emaciation, breast muscle atrophy, and abnormal bile ducts.

Reported Statistical Results

Statistical Method: None

LD_{50}: > 2250 mg a.i./kg
NOEL: >2250 mg a.i./kg for mortality and 810 mg a.i. for feed consumption.

13. Verification of Statistical Results

Statistical Method: None needed
LD_{50}: > 2250 mg a.i./kg
NOEL: >2250 mg a.i./kg for mortality and 810 mg a.i. for feed consumption.

15. REVIEWER'S COMMENTS:

Study appears to be scientifically valid. Special attention should be paid to the non-mortality findings (body weight loss, feed consumption, and gross pathological findings).

DATA EVALUATION RECORD
§ 71-1(A) - AVIAN SINGLE-DOSE LD_{50} TEST

1. **CHEMICAL:** Chlorfenapyr Soil Metabolite, CL 325,195 PC Code No.: 129011

2. **TEST MATERIAL:** 2-Pyrroline-3-carbonitrile,2-(p-chlorophenyl)-5-hydroxy-4-oxo-5-(trifluoromethyl); Lot # AC9014-93B; cream colored powder.
   Purity: 97 %

3. **CITATION**

Authors:	J. A. Gagne, S. R. Mortensen, Md. Sayed Ahmed, and T. Harris.
Title:	Avian Single-Dose Oral LD50 Test with CL 325,195 in Northern Bobwhite (*Colinus virginianus*).
Study Completion Date:	10 December 1997
Laboratory:	Genesis Laboratories, Inc., Wellington, CO
Sponsor:	American Cyanamid Company, Princeton, NJ
Laboratory Report ID:	ECO-97-252
MRID No.:	

4. **REVIEWED BY:** Regina Hirsch, Wildlife Ecologist, ERB1, EFED

   Signature: Regina Hirsch **Date:** 1/16/98

5. **APPROVED BY:** Arnet Jones, Chief, ERB1, EFED Secondary Review Ed Odenkirchen

   Signature: Arnet R. Jones **Date:** 09/22/98

6. **STUDY PARAMETERS**

   Test Organisms Age/Size: 22 weeks old at test initiation.
   Definitive Study Duration: 14 days

7. **CONCLUSIONS:**

   Results Synopsis

LD_{50}: 741.0 mg ai/kg	95% C.I.: 549.0 - 3017.0 mg ai/kg
NOEL: 192 mg ai/kg	Probit Slope: 4.17

8. **ADEQUACY OF THE STUDY**

   A. Classification: Core.

   B. Rationale: N/A

C. Repairability: N/A

9. GUIDELINE DEVIATIONS:

1. Nutritional content, and pesticide contaminant analyses of the feed and water used to maintain the Bobwhite Quail during holding, acclimation, and the test period, were not performed.

10. SUBMISSION PURPOSE: To support Chlorfenapyr registration and tolerance petition.

11. MATERIALS AND METHODS

A. Test Organisms

Guideline Criteria	Reported Information
Species: A wild waterfowl species, preferably the mallard (*Anas platyrhynchos*), or an upland game bird species, preferably the bobwhite (*Colinus virginianus*).	*Colinus virginianus*
Age at beginning of test: At least 16 weeks old.	22 weeks old
Supplier	Barrett's Quail Farm, Houston, TX
Acclimation period: At least 15 days.	At least 15 days

B. Test System

Guideline Criteria	Reported Information
Pen facilities adequate?	Yes
Photoperiod: 10-h light, 14-h dark is recommended.	10-h light, 14-h dark
Diet was nutritious and appropriate for species?	Yes

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Guideline Criteria	Reported Information
Feed withheld at least 15 hours prior to dosing?	Yes

C. Test Design

Guideline Criteria	Reported Information
Range finding test?	Yes, 5 treatment levels were tested: 5, 25, 125, 625, and 2000 mg ai/kg body weight. Twenty-four birds were used (4 birds per treatment). Seven birds died during the test, four from the 2000 mg ai/kg and three from the 625 mg ai/kg treatment group.
Definitive Test **Nominal concentrations:** At least five, in a geometric scale, unless LD_{50} > 2000 mg ai / kg.	Vehicle control (one empty gelatin capsule), 125, 192, 296, 455, and 700 mg ai/kg body weight.
Controls: Water control or vehicle control (if vehicle is used)	Vehicle control (one empty gelatin capsule)
Number of birds per group: 10 (strongly recommended)	10 birds per group (5 males and 5 females)
Vehicle: Distilled water, corn oil, propylene glycol, 1% carboxymethylcellulose, or gum arabic.	None
Amount of vehicle per body weight: Constant volume/weight % of body weight, not to exceed 1% (1ml/100g).	N/A
Observations period: At least 14 days.	14 days

12. REPORTED RESULTS

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Individual body weights measured at beginning of test, on day 14 and at end of test if extended beyond 14 days?	Yes, body weights taken on days 0 (dosing day), 3, 7, and 14.
Mean feed consumption measured at beginning of test, on day 14, and at end of test if extended beyond 14 days?	Yes, feed consumption (grams/bird/day) were measured and data pooled for days 1-3, 4-7, and 8-14. Feed spillage was monitored daily to estimate the relative amounts of spillage for each treatment and control group pair.
Control Mortality: Not more than 10%	0%
Raw data included?	No
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
125	10	0	0	0	0	0	0	0	0
192	10	0	0	0	0	0	0	0	0
296[a]	10	1	1	1	1	1	1	1	1
455[b]	10	0	0	0	1	1	1	1	1
700[c]	10	1	1	1	2	3	5	5	5

[a] The dead bird was found outside the pen on floor at AM observation one day after dosing. The liver of the bird was found torn and hemorrhaging during necropsy, however, no skin lesion or external injury was observed. The bird was accounted for when determining the LD50.

[b] Some birds in this group showed signs of hyperexcitability and fluffed feathers after dosing.

[c] Some birds in this group showed signs of hypo-reactivity and moribundity after dosing.

Other Significant Results:

Significant differences in mean body weight from the control group were found in treatment group 455 mg ai/kg body weight on day 3 and in treatment groups 455 and 700 mg ai/kg body weight on day 7. Mean feed consumption was significantly lower from the control group in treatment groups 192, 296, 455, and 700 mg ai/kg body weight for days 1-3 and in treatment groups 455 and 700 mg ai/kg body weight during days 4-7. In addition, gross pathological examination were performed on 24 birds at the end of the study. Test substance related abnormalities were detected in the 455 and 700 mg ai/ kg body weight treatment groups. Four birds in the 700 mg ai/kg group and one bird in the 455 mg ai/kg group showed signs of emaciation. Change in breast muscle tone was found in two birds at the 700 mg ai/kg body weight group.

Reported Statistical Results

Statistical Method: Probit Method

LD_{50}: 741 mg/kg 95% C.I.: 549-3017 mg/kg

NOEL: 296 mg/kg Probit Slope: 1.811

13. Verification of Statistical Results

Statistical Method: Probit

LD_{50}: 741.0 mg/kg 95% C.I.: 549 - 3017 mg/kg

NOEL: 192 mg/kg Probit Slope: 4.17

15. REVIEWER'S COMMENTS:

Study appears to be scientifically valid. Special attention should be paid to the non-mortality findings (body weight loss, feed consumption, and gross pathological findings).