2/27/90

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DATA EVALUATION RECORD

1.) CHEMICAL: XRM-5019 (sulfonylurea herbicide)

2.) TEST MATERIAL: XRM-498, 99.6% active ingredient. The formulated product XRM-5019 contains 74.9% active ingredient.
EPA No. 464-EUP-RNG; PM-23.

3.) STUDY TYPE: Avian dietary LC50 test with the mallard duck.

4.) CITATION: Grimes,J. and M. Jaber.1988. XRD-498 Herbicide: A Dietary LC50 Study With The Mallard. Wildlife International, Ltd., Easton, Md. Project No.103-287. MRID: 412632-19

5.) REVIEWED BY:
Richard C. Petrie
Agronomist
EEB/EFED

Signature: Richard C. Petrie
Date: 2/16/90

6.) APPROVED BY:
Ann Stavola
Head, Section 3
EEB/EFED

Signature: Ann Stavola
Date: 2/27/90

7.) CONCLUSIONS:
This study is scientifically sound and is acceptable for use in hazard assessments (CORE). The mallard duck LC50 value for XRD-498 herbicide is greater than 5620 ppm ai; the highest dose tested. The NOEL was 5620 ppm. XRD-498 is classified as "practically non-toxic" to mallard duck.

8.) RECOMMENDATIONS:
N/A

9.) BACKGROUND:
No background information was found in EEB files.

10.) DISCUSSION OF INDIVIDUAL TESTS:

11.) MATERIALS AND METHODS:

A. TEST ANIMALS

Mallard ducks 10 days old, in good health, were used in this study. They were obtained from Whistling Wings, Hanover, IL. and acclimated for a 9 day period. All ducks were phenotypically similar to wild birds. Ten birds were randomly assigned to each test/control group. Chicks were too immature to sex. Birds were fed a game bird ration formulated to Wildlife Intl. specifications. Birds received no form of antibiotic medication during acclimation or study periods.

B. DOSAGE

Test diets were mixed with corn oil at a 2% level. All dietary concentrations were adjusted to 100% active ingredient and are reported as ppm of ai. in the diet. Nominal rates were 5620, 3160, 1780, 1000, and 562 ppm ai.

C. STUDY DESIGN

Birds were housed indoors during acclimation and testing in galvanized steel brood pens 72 x 90 cm with a height of 24 cm. Exposure period of the test was 5 days, post-exposure observation period was 3 days. Brood pen temperature was 29 degrees C, ambient room temperature was 26 degrees C. The average relative humidity was 66%. Photoperiod was 16 hours light per day during the acclimation and study periods. Housing and husbandry conditions were based on the "Guide For The Care And Use Of Laboratory Animals", NIH publication 85-23, 1985. XRD-498 was stable in the avian diet. Birds were observed daily during acclimation and at least twice daily during the test period. Mortality, signs of toxicity, and abnormal behavior were assessed at each treatment level. Body weights were measured at study initiation, day 5, and day 8 (termination). Average food consumption was measured for days 0-5 and 6-8.

D. STATISTICAL ANALYSIS

The test results were not conducive to statistical analysis. Estimation of the LC50 was by visual inspection of mortality, body weight, and food consumption data.

12.) REPORTED RESULTS:

There were no mortalities or overt signs of toxicity in the control group or at any dose tested. All birds were normal in appearance and behavior throughout the test period.

13.) STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:

No mortalities or treatment related effects on body weights/feed consumption were noted at any dose tested. The LC50 value is greater than 5620 ppm ai., the highest dose tested. The NOEL was 5620 ppm.

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

A. Test Procedure:

This study is generally in compliance with EPA GLP standards. No deviations from protocol were noted.

B. Statistical Analysis:

No statistical analysis was possible due to low mortality at the highest dose tested. By inspection the LC50 for the mallard duck is greater than 5000 ppm ai., classifying XRD-498 as "practically non-toxic" to mallard duck.

C. Discussion/Results:

This study is judged scientifically sound and acceptable for use in a hazard assessment.

D. Adequacy Of The Study:

(1) Classification: Core
(2) Rationale: N/A
(3) Repairability: N/A

DATA EVALUATION RECORD

1.) CHEMICAL: XRM-5019 (sulfonylurea herbicide)

2.) TEST MATERIAL: XRD-498, 99.6% active ingredient. The formulated product XRM-5019 contains 74.9% active ingredient.
EPA No. 464-EUP-RNG; PM-23.

3.) STUDY TYPE: Avian dietary LC50 test with the Bobwhite quail.

4.) CITATION: Grimes,J. and M. Jaber.1988. XRD-498 Herbicide: A Dietary LC50 Study With The Bobwhite. Wildlife International, Ltd., Easton, Md. Project No.103-287. MRID: 412632-20

5.) REVIEWED BY:
Richard C. Petrie
Agronomist
EEB/EFED

Signature: Richard C. Petrie
Date: 2/16/90

6.) APPROVED BY:
Ann Stavola
Head, Section 3
EEB/EFED

Signature: Ann Stavola
Date: 2/27/90

7.) CONCLUSIONS:
This study is scientifically sound and is acceptable for use in hazard assessments (CORE). The bobwhite quail LC50 value for XRD-498 herbicide is greater than 5620 ppm ai; the highest dose tested. The NOEL was 5620 ppm. XRD-498 is classified as "practically non-toxic" to bobwhite quail.

8.) RECOMMENDATIONS:
N/A

9.) BACKGROUND:
No background information was found in EEB files.

10.) DISCUSSION OF INDIVIDUAL TESTS:

11.) MATERIALS AND METHODS:

A. TEST ANIMALS

Bobwhite quail 10 days old, in good health, were used in this study. They were obtained from Sand Prairie Quail farm, Maquoketa, IA. and received 1 day after hatching. All were pen-reared and phenotypically similar to wild birds. Ten birds were randomly assigned to each test/control group. Chicks were too immature to sex. Birds were fed a game bird ration formulated to Wildlife Intl. specifications. Birds received no form of antibiotic medication during acclimation or study periods.

B. DOSAGE

Test diets were mixed with corn oil at a 2% level. All dietary concentrations were adjusted to 100% active ingredient and are reported as ppm of ai. in the diet. Nominal rates were 5620, 3160, 1780, 1000, and 562 ppm ai.

C. STUDY DESIGN

Birds were housed indoors during acclimation and testing in galvanized steel brood pens 72 x 90 cm with a height of 24 cm. Exposure period of the test was 5 days, post-exposure observation period was 3 days. Brood pen temperature was 38 degrees C, ambient room temperature was 26 degrees C. The average relative humidity was 66%. Photoperiod was 16 hours light per day during the acclimation and study periods. Housing and husbandry conditions were based on the "Guide For The Care And Use Of Laboratory Animals", NIH publication 85-23, 1985. XRD-498 was stable in the avian diet. Birds were observed daily during acclimation and at least twice daily during the test period. Mortality, signs of toxicity, and abnormal behavior were assessed at each treatment level. Body weights were measured at study initiation, day 5, and day 8 (termination). Average food consumption was measured for days 0-5 and 6-8.

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13.) STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:

No mortalities or treatment related effects on body weights/feed consumption were noted at any dose tested. The LC50 value is greater than 5620 ppm ai., the highest dose tested. The NOEL was 5620 ppm.

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

A. Test Procedure:

This study is generally in compliance with EPA GLP standards. No deviations from protocol were noted.

B. Statistical Analysis:

No statistical analysis was possible due to low mortality at the highest dose tested. By inspection the LC50 for the bobwhite quail is greater than 5000 ppm ai., classifying XRD-498 as "practically non-toxic" to bobwhite quail.

C. Discussion/Results:

This study is judged scientifically sound and acceptable for use in a hazard assessment.

D. Adequacy Of The Study:

(1) Classification: Core
(2) Rationale: N/A
(3) Repairability: N/A