2/27/90

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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 single dose oral LD50 test with the bobwhite quail.

4.) CITATION: Grimes,J. and M. Jaber.1988. XRD-498 Herbicide: An Acute Oral Toxicity Study With The Bobwhite. Wildlife International, Ltd., Easton, Md. Project No.103-289. MRID: 412632-18

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 14 day bobwhite quail LD50 value for XRD-498 herbicide is greater than 2250 mg. ai./Kg; the highest dose tested. The NOEL was 2250 mg. ai./Kg. 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 16 weeks old, in good health, were used in this study. They were obtained from Fruitts Quail Farm, Phillipsburg, NJ. and acclimated for a 3 week period. All quail were phenotypically similar to wild birds. Ten birds were randomly assigned to each test/control group, 5 females and 5 males per group. Birds were fed a game bird ration formulated to Wildlife Intl. specifications. Fasting occurred 15 hours before the study began. 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 mg. ai./Kg in the diet. Nominal rates were 2250, 1350, 810, 486, and 292 mg ai. XRD-498/Kg body weight.

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. The post-exposure observation period was 14 days. Brood pen temperature was 29 degrees C, ambient room temperature was 24 degrees C. The average relative humidity was 84%. Photoperiod was 8 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 3, and day 7, and day 14. Average food consumption was measured for days 0-3 and 4-7, and 8-14.

D. STATISTICAL ANALYSIS

The test results were not conducive to statistical analysis. Estimation of the LD50 was by visual inspection of mortality 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 LD50 value is greater than 2250 mg ai./Kg, the highest dose tested. The NOEL was 2250 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 no mortality or treatment related effects at the highest dose tested. By inspection the LD50 for the bobwhite quail is greater than 2000 mg ai./Kg, 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