



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: Glyphosate - Possible 6 (a)(2) Effect in 2-Generation
Rat Reproduction Study Submitted by Monsanto in Letter
of November 15, 1989

Caswell No.: 661A -
HED Project No.: 0-0504
Record No.: 257892

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THRU: Roger Gardner, Section Head
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TO: Robert J. Taylor, Product Manager 25
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Requested Action

Review possible adverse effects [6(a)(2) data] reported by
Monsanto from the 2-generation rat reproduction study.

Recommendations and Conclusions

The results reported by Monsanto in their letter of November
15, 1989, do not suggest an adverse reproductive effect under
FIFRA 6(a)(2) (Reporting Code 9, 40 CFR, 158.34).

Background

In a letter dated November 15, 1989, the Registrant
(Monsanto) described results from a multigeneration reproduction
study in rats as follows:

...Groups of 30 male and 30 female Sprague-Dawley rats were
administered glyphosate through their diet at concentrations of 0,
2000, 10,000, and 30,000 ppm. The F₀ adults produced one litter
of animals and the F₁ adults produced two successive litters...



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There were statistically significant reductions (relative to controls) in body weights of high dose (30,000 ppm) group adults. Similar body weight reductions (statistically significant) were noted in pups of the high dose group on lactation days 14 and 21. Smaller decreases were noted in some mid dose (10,000 ppm) pups but only on lactation day 21. There was a slight but statistically significant decrease in the number of F₁ pups per litter at birth in the high dose group. No statistically significant decrease was noted in the F_{2A} or F_{2B} litters but a slight treatment-related effect cannot be ruled out at the high dose. There were no treatment-related effects at the low dose (2000 ppm) animals. These results are preliminary and have not been fully evaluated.

Comments

The reference dose (RfD) for glyphosate was based on a previous 3-generation reproduction study with a no-observed-effect level (NOEL) of 10 mg/kg/day, and the RfD is 0.1 mg/kg/day based on the NOEL and an uncertainty factor of 100. If the effects reported at the mid dose level of 10,000 ppm (500 mg/kg/day) can be attributed to the administration of glyphosate, the NOEL of 2000 ppm (100 mg/kg/day) is 1000 times the existing RfD (ADI). Therefore, the reported information did not suggest that glyphosate meets the criterion for 6(a)(2) adverse reproductive effects data (40 CFR, 158.34, Reporting Code 9).

According to the PDMS, the study described in the November 15 letter has been submitted to the Agency and has the following listing:

MRID 41621501. Reyna, M. (1990) Two Generation Reproduction Feeding Study with Glyphosate in Sprague Dawley Rats: Lab Project No. MSL-10387. Unpublished study prepared by Monsanto Agricultural Co. 1158 p.

This study was received by the Agency on September 6, 1990, and has not been forwarded to Toxicology Branch I for review as of the date of this memorandum.

Page _____ is not included in this copy.

Pages 3 through 4 are not included.

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