Shaughnessy No.: 121601

Date Out of EAB: MAR 23 1988

To: Robert Taylor
Product Manager #25
Registration Division (TS-767C)

From: Emil Regelman, Supervisory Chemist
Review Section #3
Exposure Assessment Branch
Hazard Evaluation Division (TS-769C)

Thru: Paul F. Schuda, Ph.D., Chief
Exposure Assessment Branch
Hazard Evaluation Division (TS-769C)

Attached, please find the EAB review of...

Reg./File # : 524-GUI

Common Name: Acetochlor

Type Product : Herbicide

Product Name : Harness®

Company Name : Monsanto

Purpose : Review of the additional information submitted to complete the photolysis and confined rotational crops studies.

Date Received: 12/2/87

Date Completed: 3/23/88

Monitoring study submitted: ____

Monitoring study voluntarily: ____

Action Code(s): 111

EAB #(s) : 70246

Total Reviewing Time: 2 days

Deferrals to:

____ Ecological Effects Branch

__x__ Residue Chemistry Branch

____ Toxicology Branch

1. CHEMICAL: Common name(s):

Acetochlor

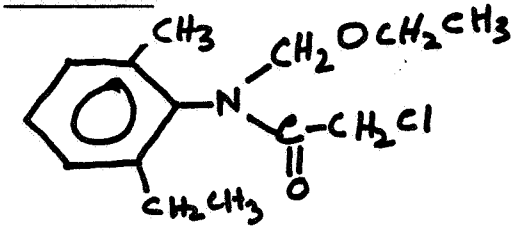
Chemical name:

2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)-acetamide

Trade name(s):

Harness®, MON-097

Structure:



Formulations:

86.4% a.i., herbicide.

Physical/Chemical properties:

Molecular weight:	269
Form:	liquid
B. P. :	> 200°C
M. P. :	> 0°C
Vapor Pressure:	< 1 mm Hg
Hydrolysis Rate:	Nondetectable at pH 5-9
Solubility :	In water, 223 ppm; very soluble in ether, acetone, benzene, alcohol, chloroform, and ethylacetate.
Stability :	Stable (first detectable heat evolution at 170°C)

2. TEST MATERIAL: Acetochlor

3. STUDY/ACTION TYPE:

Additional information (Acc. No. 071961) on two environmental fate studies with acetochlor: (1) photolysis; and, (2) confined rotational crops.

4. STUDY IDENTIFICATION:

Letendre, L J. and G.H. Klemm. The Environmental Photochemistry of Acetochlor. Report # MSL-2748. December 1982. Acc. #071961.

Livingston, C.L. Uptake and Characterization of Acetochlor Residues in Primary, Emergency Replant and Rotational Crops. Report # MSL-2988. May 1982. Acc. #071961.

5. REVIEWED BY:

Padma Datta, Ph.D.
Chemist
Review Section #3
EAB/HED/OPP

Signature: PRDatta

Date: 3/23/88

6. APPROVED BY:

Emil Regelman
Supervisory Chemist
Review Section #3
EAB/HED/OPP

Signature: E Regelman

Date: MAR 23 1988

7. CONCLUSIONS:

The photodegradation data gaps re acetochlor in water (§161-2) and on soil (§161-3) are now satisfied because the registrant, Monsanto, has provided the GC chromatograms needed to support the statement that all dichloromethane soluble radioactivity was attributable to acetochlor.

For the confined rotational crops study (§165-1), Monsanto has provided (1) the application rates used in the study (1.3 and 1.4 lbs. a.i./acre); (2) soil residue data at the time of harvest of the last crop; and, (3) explained that the requirements for soil residues data at the time of treatment and at the time of planting were not in effect when this study was conducted in May 1979. This explanation is not reasonable and acceptable to EAB. EAB's concerns re this confined rotational crops study have not been satisfied. Therefore, the confined rotational crops study (§165-1) does not support registration of acetochlor under 40 CFR §158.130.

8. RECOMMENDATIONS:

EAB recommends RD inform the registrant Monsanto that the photodegradation studies [in water (§161-2) and on soil (§162-2)] are fulfilled to support registration of acetochlor for terrestrial food crops under 40 CFR §158.130.

EAB recommends RD request Monsanto to repeat the study on confined rotational crops (§165-1) following the guidance in Subdivision N of the Pesticide Assessment Guidelines, 1982.

Since detectable residues (0.08-0.38 ppm) in rotational crops (barley, cabbage, and radish) are still present 12 months following treatment, EAB defers the present study to RCB for a determination whether rotational crops tolerances are warranted.

9. BACKGROUND:

On 10/1/86, Monsanto Company submitted additional information (Acc. No. 071961) required by EFB review #4006, 1/24/84, to fulfill the data requirements for (1) the photolysis in water and on soil; and, (2) confined rotational crops to support registration of acetochlor.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: N/A.

11. COMPLETION OF ONE-LINER: N/A.

12. CBI APPENDIX: N/A.