

Shaughnessy No.: 121601

Date Out of EFGWB: SEP 14 1988

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

From: Emil Regelman, Supervisory Chemist
Review Section #2
Environmental Fate & Ground Water Branch
Environmental Fate & Effects Division (TS-769C)

Thru: Paul F. Schuda, Ph.D., Chief
Environmental Fate & Ground Water Branch
Environmental Fate & Effects Division (TS-769C)

Attached, please find the EFGWB review of...

Reg./File # : 109

Common Name: Acetochlor

Type Product : Herbicide

Product Name : Harness®

Company Name : ICI Americas Inc.

Purpose : Review the summary of key issues prepared by ICIA Inc. re
data requirements to register acetochlor for use on corn.

Date Received: 8/17/88

Action Code(s): 350

Date Completed: 9/14/88

EFGWB #(s): 80968

Monitoring study requested:

Total Reviewing Time: 0.5 day

Monitoring study voluntarily:

Deferrals to: Ecological Effects Branch/EFED

 Dietary Exposure Branch/HED

 Toxicology Branch-HFA Support/HED

1. CHEMICAL: Common name(s):

Acetochlor

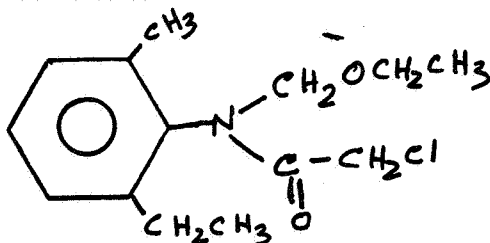
Chemical name:

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

Other name(s):

Harness®

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:

N/A.

3. STUDY/ACTION TYPE:

ICI Americas Inc. (ICIA) meeting notes on the acetochlor conference held between ICIA and EAB [now EFGWB], 5/26/88.

4. STUDY IDENTIFICATION:

N/A.

5. REVIEWED BY:

Padma Datta, Ph.D.
Chemist
Review Section #2
EFGWB/EFED/OPP

Signature: PKDatta

Date: 9/14/88

6. APPROVED BY:

Emil Regelman
Supervisory Chemist
Review Section #2
EFGWB/EFED/OPP

Signature: ERegelman

Date: SEP 14 1988

7. CONCLUSIONS:

EFGWB has the following comments re ICIA's summary of key issues on the environmental fate data requirements to register acetochlor for use on corn as discussed at the ICIA/EFGWB meeting of May 26, 1988: (1) A laboratory volatility study (\$163-2) is not required when the vapor pressure is $< 1 \times 10^{-6}$ and not $< 1 \times 10^{-5}$ as stated in item #10 of the ICIA Inc. document; and (2) all other points discussed in the ICIA's summary are acceptable to EFGWB.

8. RECOMMENDATION:

EFGWB recommends RD inform ICI Americas Inc. of our comments as listed in the conclusions section of this review.

9. BACKGROUND:

On 8/10/88, ICI Americas Inc. requested EAB [now EFGWB] review the summary prepared by them on key issues discussed at the 5/26/88 ICIA/EFGWB meeting re environmental fate data requirements to register acetochlor for use on corn.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

N/A.

11. COMPLETION OF ONE-LINER:

See attached one-liner sheet.

12. CBI APPENDIX:

N/A.



ICI Americas Inc.

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Agricultural
Products

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 10, 1988

Mr. Robert J. Taylor
Product Management Team (25)
Fungicide-Herbicide Branch
Registration Division (TS-767C)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

Dear Mr. Taylor:

RE: ICI/EPA Meetings of May 26 and 27, 1988
Acetochlor

ICI Americas Inc. has prepared a summary of the key issues discussed at our May 26 and May 27 meetings with EAB, RCB and EEB to discuss registration data requirements for acetochlor, the chloroacetanilide compound which is being developed by ICIA.

We would be grateful for your review and comment/concurrence with the summary.

Thank you for your assistance in this matter.

Sincerely,

Barbara J. Kaminski
Senior Pesticide Regulatory Specialist

BJK/sfp

081088SFP101

ACETOCHLOR DISCUSSIONS WITH ENVIRONMENTAL PROTECTION AGENCY

Meeting with EAB Thursday May 26 1988 11.00 - 12.00 hrs

Those present:

EAB

Ms Joanne Miller
Dr Emil Regelman
Dr Padma Datta

ICI Americas and ICI Agrochemicals UK

Ms Barbara Kaminski	ICI A
Dr Barrie Cavell	ICI UK
Mr Michael Skidmore	ICI UK
Mr Geoffrey Willis	ICI UK

This meeting was very constructive and ICI would like to thank EAB, especially Dr Regelman, for the time and effort in obvious considerable preparation for the meeting and also for the checklist for data requirements, presented at the meeting.

1. Use pattern

Barbara Kaminski informed EAB that ICI was seeking to register acetochlor for use in corn. The herbicide will be used at a maximum rate of 2.5 lb ai/acre, in a single preemergence application per season. Ground equipment will be used to apply the chemical.

2. Ground water monitoring

Emil Regelman advised this class of compound has the potential to leach. Therefore, ICI should generate mobility data, and if there is evidence for mobility, consult EPA Ground Water Team (head Patrick Holden) for criteria to undertake groundwater studies. A conditional registration would be granted if a ground water study was in progress, and if all other studies were found to be satisfactory by the Agency.

3. Soil mobility studies (163-1)

Emil Regelman informed ICI that the batch equilibrium absorption/desorption study is much preferred to other leaching studies. Soil mobility studies should be undertaken on acetochlor and its major soil degradates.

4. Anaerobic soil metabolism (162-2)

Emil Regelman recommended that, if in the future, ICI was to progress other use patterns for acetochlor, it may be worth considering undertaking an anaerobic aquatic metabolism study (162-3) now in place of an anaerobic soil metabolism study (162-2).

5. Field soil dissipation studies (164-1)

Emil Regelman advised that since ICI was progressing a registration only in corn, it would only be necessary to undertake two soil dissipation studies in major corn growing areas in the USA. Padma Datta recommended undertaking these studies in Iowa and Louisiana.

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NOTE: ICI now wishes to inform the Agency that four soil dissipation studies were initiated prior to our meeting with EAB Branch on May 26 1988. These trials are in Illinois, Mississippi, California and North Carolina and were started in Spring 1988.

Emil Regelman said that, in sampling dissipation trials, a residue-free zone of two feet must be obtained. This is because some pesticides move as boluses. Thus for a compound that doesn't leach, two feet sampling will be sufficient. But, for pesticides that leach, it may be necessary to sample to 3-4 feet. Major soil degradates must be analysed, and a limit of detection of 0.05 ppm would be acceptable.

6. Soil dissipation, long term (164-5)

For chemicals and degradates with half life greater than 6 months, there may be a need for longer term soil dissipation trials.

7. Run off study

The proposed use pattern for acetochlor, and the general properties of this class of herbicide, make this an unlikely requirement.

8. Confined rotational crop study (165-1)

Emil Regelman recommended that an exaggerated rate of application of acetochlor (1.1 x maximum use rate) should be applied and that this should be confirmed by analysing the soil immediately after application.

If residues of individual metabolites in rotated crops are less than 0.01 mg kg⁻¹ at the rotational interval of 120 days, then a 1 year plant back would probably be unnecessary. If the residue is "bound", then this is unlikely to be a problem.

9. Field rotational crop studies (165-2)

Emil Regelman advised that if residues are indicated from confined rotational crop studies, then ICI should undertake cold rotational trials in field. In considering rotational crop intervals, ICI should understand agricultural practices.

10. Volatility (lab) (163-2)

The requirement for this study is dependent on the vapour pressure of acetochlor. If the vapour pressure is less than 1×10^{-5} mm Hg at 25° then this study is unlikely to be required.

11. Photodegradation in air (161-4)

This study will not be triggered with the proposed use pattern for acetochlor.

12. Fish accumulation (165-4)

Fish accumulation is a requirement unless a waiver is requested. A critical study in determining the need for a fish accumulation is the octanol/water coefficient. If the value for this is considerably less than 1000 then the requirement for a fish bioaccumulation study is likely to be waived by the Agency.