PMSD/ISB

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

JUL 19 1988

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MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Alachlor (090501)
Response to Registration Standard Deficiencies
Request for Registration of Lasso Micro-Tech on Corn
EPA Reg. Nos. 524-316, 524-344
Monsanto Letter of 2/19/88
Monsanto Submission of 12/11/87
(Monsanto R.D. No. 837)
[No MRID No., RCB Nos. 3461, 3462]

FROM: Susan V. Hummel, Chemist
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Susan V. Hummel

THRU: Edward Zager, Section Head
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TO: Vickie Walters, PM#25
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Monsanto Company has submitted an update to their response to the Alachlor Registration Standard, consisting of Monsanto letter of 2/19/88. The letter discusses time frames for submission of residue data required by the Registration Standard. Also included in the package from RD was a request for registration of Lasso Microtech on corn (EPA Reg. No. 542-344). No data were included in this submission. The registration request is identical to that reviewed by M. Kovacs in connection with PP#0F2348. (See M. Kovacs memo of 4/19/88, RCB No. 3464.) Our last review of Registration Standard deficiencies was the 11/3/87 memo of S. Hummel (RCB Nos. 2597, 2596, 2609, 2610, 2611).

Alachlor [2-chloro-2',6'-diethyl-N-(methoxymethyl) acetanilide] is the active ingredient in LASSO Herbicide. Lasso Micro-Tech is the microencapsulated formulation of alachlor. The Alachlor Registration Standard was issued 11/20/84. Alachlor was placed into Special Review in December, 1984. The Alachlor Special Review was concluded in December, 1987, with the publication of the PD4. (52 FR 49480, 12/31/87)

According to the Registration Standard, the available residue data did not support the established tolerances on any

rac, since a second class of alachlor metabolites was discovered in a plant metabolism study on corn and soybeans (M. Kovacs, PP#0F2348, 4/23/84, Accession No. 251375). Previous residue analytical methodology had detected only those metabolites which contained the diethylaniline moiety (DEA). Analytical methodology is now available to detect both classes of alachlor metabolites. This methodology has been sent to FDA for inclusion in PAM II.

Tolerances have been established for the combined residues of alachlor and its metabolites in or on numerous commodities, ranging from 0.02 ppm (N) in animal commodities to 3 ppm in or on peanut forage. (40 CFR 180.249). No food or feed additive tolerances for residues of alachlor and its metabolites have been established. The tolerances are listed in our last review of the Registration Standard deficiencies (S. Hummel. 11/3/87).

CONCLUSIONS

1. No data were included in this submission; consequently, none of the Alachlor Registration Standard data deficiencies outlined in our memo of 11/3/87 (S. Hummel, RCB Nos. 2597, 2596, 2609, 2610, 2611) have been resolved. See our memo of 11/3/87 for further information.

2. No residue data have been submitted reflecting the proposed use pattern for Lasso Micro-Tech on corn, where both DEA and HEEA metabolites of alachlor were analyzed. Residue data, where both DEA and HEEA metabolites of alachlor are measured, are available for only preemergence applications of Lasso Micro-Tech (and all other formulations) of alachlor.

3. Our understanding is that the Product Manager has already acted on a registration request for pre-emergence and early post-emergence uses of Lasso Micro-Tech on corn.

## Detailed Considerations

### Proposed Use

The proposed use for Lasso Micro-tech on corn includes preplant incorporated, preemergence surface, early post emergence surface (before the corn is 5" high) applications; and sequential applications (before the corn is 5" high) not to exceed 8 lb ai/A. The recommended rate is 4 lb ai/A for hard to control weeds and 8 lb ai/A on muck or peat soils. A number of tank mixes are also proposed.

Residue Data

No residue data were submitted with this request. Available residue data for Lasso Micro-Tech, where both DEA and HEEA metabolites of alachlor were analyzed have been reviewed previously (See S. Hummel memos of 1/30/87, Accession No. 262999, RCB No. 1367; 3/17/86, Accession No. 260643, RCB No. 452; and M. Loftus memo of 10/29/85, Accession No. 257271, RCB No. 1006). Residue data for Micro-Tech on corn, where only DEA metabolites were analyzed are found in PP#2F2681. Residue data for the EC formulation of Lasso where only the DEA metabolites are analyzed are found in PP#0F2348. The available residue data are summarized in the table below. Over tolerance residues were reported in corn forage and fodder. No residue data are available for any post-emergence use where both DEA and HEEA metabolites of alachlor were analyzed. No residue dat are available for the early postemergence use or for sequential applications (preemergence or preplant incorporated + early postemergence). This summary of available residue data was provided to the Registration Division on 3/14/88.

Alachlor residues from the use of Lasso EC and Lasso Microtech
(DEA + HEEA Metabolites or DEA Metabolites Only)

| | EC | | | Microtech | | | |
|---|---|---|---|---|---|---|---|
| | #samples | #over tolerance | maximum residue | #samples | #over tolerance | maximum residue | |
| Preemergent Application | | | | | | | |
| 3 lb ai/A | | | | | | | |
| grain | 3 | 0 | <0.020 | 3 | 0 | <0.020 | |
| forage | 4 | 0 | 0.09 | 5 | 1 | 0.52 | 1/ |
| fodder | 4 | 0 | 0.06 | 5 | 0 | 0.12 | |
| K+CWHR | 1 | 0 | <0.020 | 2 | 0 | <0.020 | |
| 4 lb ai/A | | | | | | | |
| grain | 22 | 0 | <0.020 | 25 | 0 | <0.022 | |
| forage | 25 | 2 | 0.21 | 28 | 7 | 7.53 | 2/ |
| fodder | 28 | 0 | 0.15 | 27 | 4 | 0.51 | |
| K+CWHR | 2 | 0 | <0.020 | 2 | 0 | <0.020 | |

1/ 2nd highest 0.18 ppm

2/ 2nd highest 0.83 ppm; This site had apparent contamination; analysis was for DEA metabolites only

| | EC | | | Microtech | | |
|---|---|---|---|---|---|---|
| | #samples | #over tolerance | maximum residue | #samples | #over tolerance | maximum residue |
| Preemergent Application | | | | | | |
| 8 lb ai/A | | | | | | |
| grain | 15 | 0 | <0.028 | 19 | 0 | <0.028 |
| forage | 18 | 5 | 0.60 | 19 | 8 | 4.37 [3]/ |
| fodder | 23 | 2 | 0.58 | 18 | 6 | 0.59 |
| K+CWHR | 1 | 0 | <0.020 | 1 | 0 | <0.020 |

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Alachlor residues from the use of Lasso EC and Lasso Microtech
(DEA Metabolites Only)

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| | EC | | | Microtech | | |
|---|---|---|---|---|---|---|
| | #samples | #over tolerance | maximum residue | #samples | #over tolerance | maximum residue |
| Post Emergent Layby Application | | | | | | |
| 4 lb ai/A | | | | | | |
| grain | 2 | 0 | <0.02 | no samples analyzed | | |
| forage | 2 | 0 | 0.16 | | | |
| fodder | 2 | 0 | 0.10 | | | |
| Preemergence + Post emergent Layby Application | | | | | | |
| (not corrected for recovery) | | | | | | |
| 8 lb ai/A total application | | | | | | |
| (4 lb ai/A preemergent + 4 lb ai/A at layby) | | | | | | |
| grain | 8 | 0 | <0.05 | no samples analyzed | | |
| forage | 9 | 1 | 1.42 [4]/ | | | |
| fodder | 9 | 1 | 1.01 | | | |
| K+CWHR | 1 | 0 | <0.02 | | | |

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cc: R. F., circu, S. Hummel, alachlor S.F., Alachlor S.R.F.,
PP#0F2348, PP#2F2681, PMSD/ISB
RDI:EZ:07/18/88:RDS:07/18/88
TS-769:RCB:SVH:svh:RM810:CM#2:07/19/88

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[3]/ 2nd highest 1.20 ppm; This site had apparent contamination; analysis was for DEA metabolites only

[4]/ 1.92 ppm when corrected for recovery