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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: EPA Reg. No. 464-448. Amended registration for chlorpyrifos on alfalfa.

FROM: Linda S. Propst, Chemist
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Hazard Evaluation Division (TS-769) *Linda S. Propst*

THRU: Charles L. Trichilo, Chief
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TO: Jay Ellenberger, Product Manager #12
Insecticide-Herbicide Branch
Registration Division (TS-767)

Dow Chemical Company is requesting an amended registration for the chlorpyrifos formulation Lorsban® 4E to revise the interval between application and harvest on alfalfa.

Tolerances have been established for combined residues of the pesticide chlorpyrifos (0,0-diethyl 0-(3,5,6-trichloro-2-pyridyl) phosphorothioate and its metabolite 3,5,6-trichloro-2-pyridinol (TCP) in or on alfalfa forage (green) at 4.0 ppm and in or on alfalfa hay at 15.0 ppm. (40 CFR 180.342).

The currently registered use for Lorsban® 4E on alfalfa allows for application rates up to 1 lb active/acre. Do not cut or graze treated alfalfa within 14 days after application of 0.5 lbs active/acre nor within 21 days after application at rates above 0.5 lbs active/acre. Do not make more than 4 applications per year.

The proposed use for chlorpyrifos would allow for alfalfa to be treated with 0.25 lb active/acre and harvested 7 days later. The remaining pertinent labeling for this proposed amended registration contains the same application rates and restrictions as the currently registered label.

The analytical methods used to generate the residue data for this submission (Method ACR 78.10 (2) for chlorpyrifos and Method ACR 71.19 R. S7 (3) for TCP) were reviewed in detail in conjunction with PP#0F2281 (see memo of E. M. K. Leovey, 5/13/80). Validated sensitivities of the chlorpyrifos and TCP methods are 0.5 and 0.1 ppm, respectively.

Data from four residue studies conducted in the states of California, Illinois, Michigan, and Mississippi were submitted with this request. In all four studies a single application of Lorsban® 4E was applied as a foliar spray at the rate of 0.25 lb chlorpyrifos/acre. Samples of alfalfa green forage were taken 7-8 days following treatment. After cutting, cured hay samples were collected after an additional 2 to 7 days drying time (9-14 days following treatment).

Residues reported for chlorpyrifos and TCP in alfalfa green forage ranged from nondetectable to 0.68 ppm and from 0.24 to 1.4 ppm, respectively. In cured hay, the ranges of residues for chlorpyrifos and TCP were from <0.5 to 1.8 ppm and 0.55 to 2.7 ppm, respectively.

There has been no submission of data with this request reflecting residues on the green forage or cured hay of alfalfa with a 7 day PHI and which had received prior treatments with chlorpyrifos.

From the above studies, we are unable to conclude that total residues of chlorpyrifos and its metabolite (TCP) occurring as a result of the proposed amended registration will not exceed the established tolerances of 4.0 ppm and 15.0 ppm in alfalfa green forage and alfalfa hay, respectively.

Conclusions and Recommendations

In the absence of data reflecting residues on the green forage or cured hay of alfalfa with a 7 day PHI and which had received prior treatments with chlorpyrifos, we are unable to conclude that the established tolerances of 4.0 ppm for alfalfa green forage and 15.0 ppm for alfalfa cured hay will be adequate to cover all residues of chlorpyrifos and its metabolite (TCP) which may occur as a result of the proposed amended registration.

Therefore, we recommend against the proposed amended registration. To give this request further consideration, the registrant should be advised to provide us with data reflecting residues on the green forage and on the cured hay of alfalfa which has been treated with 1 lb active/acre 28 days prior to harvest, received a second application of 1 lb active/acre 21 days prior to harvest, received a third application at the rate of 0.5 lb active/acre 14 days prior to harvest, and received a final treatment of 0.25 lb active/acre 7 days prior to harvest.

TS-769:RCB:L.Propst:cdw:CM#2:Rm810:X77324:11/15/83
cc: R.F., Circu., Reviewer, Subject S.F., Amended use File.,
RDI: R. Hummel, 11/15/83,; R. Schmitt, 11/15/83