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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. Nos. 464-448 and 464-523. Chlorpyrifos on onions. Accession Nos. 072613 and 072597.

FROM: Linda S. Propst, Chemist
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THRU: Charles L. Trichilo, Chief
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TO: Jay Ellenberger, PM 12
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Registration Division (TS-767)

Dow Chemical Company is requesting amended registrations for the chlorpyrifos formulations Lorsban® 4E and Lorsban® 15G to allow for their use on set and transplanted onions (dry bulb) as well as direct seeded onions and to eliminate the geographical use restrictions. The remaining pertinent labeling for these proposed registrations contain the same application rates and restrictions as the currently registered label.

A tolerance of 0.5 ppm has been established for combined residues of the pesticide chlorpyrifos (O,O-diethyl O-(3,5,6-trichloro-2-pyridyl)phosphorothioate and its metabolite 3,5,6-trichloro-2-pyridinol (TCP) in or on dry bulb onions (40 CFR 180.342).

The currently registered use for Lorsban® (4E or 15G) on dry bulb onions allows for one application to be made at planting time using 0.55 oz. active/1000 ft. of row with an 18" row spacing (1 lb. active/A) for the control of onion root maggots. Lorsban® is for use on direct seeded onions only and is limited to the states of California (Modoc and Siskiyou Counties), Idaho, Indiana, Michigan, Minnesota, New Jersey, New York, Ohio, Oregon, Washington, and Wisconsin.

Validation data for the analytical methods show recoveries for fortified check samples (0.1 - 0.2 ppm) ranging from 101% to 112% for chlorpyrifos and from 51% to 63% for pyridinol. Method sensitivity is given as 0.05 ppm.

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Data from three residue studies conducted in the state of Michigan were submitted with this application. The first study reflects residues on onions occurring at harvest 83 days after receiving 1 lb active/acre at seeding. The maximum residue of parent reported was 0.076 ppm with no detectable (<0.05 ppm) residues of pyridinol.

Onions receiving a 1 lb active/acre band application at transplant plus two direct spray applications using 1 lb active/acre had no detectable (<0.05 ppm) combined residues at harvest, 54 days after the last application.

In the third study, onions received a 1 lb active/acre application at transplant plus two direct spray applications using 1 lb active/acre. With a 53 day PHI, the maximum residue reported was 0.085 ppm of chlorpyrifos with no detectable residues of pyridinol.

There were no residue data submitted from onions grown from sets. However, considering the multiple applications made to the transplanted onions we are willing to translate data from these to onions grown from sets. From the data submitted we conclude that combined residues of chlorpyrifos and its pyridinol metabolite resulting from the proposed use of Lorsban® on onion sets and transplanted onions will not exceed the established tolerance of 0.5 ppm.

Data reflecting residues of chlorpyrifos on onions available in our files were generated in the states of New York, Washington, Wisconsin, and Michigan. Since more than half of the onions in the United States are produced in the Southwest (Texas, Arizona, New Mexico, and California) we will require residue data from this area before we are willing to lift the geographical restriction from the label.

CONCLUSIONS AND RECOMMENDATIONS

The combined residues of chlorpyrifos and its pyridinol metabolite on transplanted onions or onions grown from sets resulting from the proposed use of Lorsban® 4E or 15G will not exceed the established tolerance of 0.5 ppm.

Therefore, we have no objections to using Lorsban® 4E or 15G on onion sets and transplants. However, we are unwilling to lift the geographical restriction from the label until residue data generated in the Southwest is made available to us.

cc: R.F., Amended Use File, Circu., Reviewer
RDI: A.R.Rathman, 7/2/84; R.D.Schmitt, 7/2/84
TS-769:RCB:LSP:lsp:CM#2:Rm 810:7/3/84:X77324