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

MAY 28 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA. Reg. No. 241-233: Dimethoate (Cygon® 400) Amended Registration to permit ULV application in oil. Accession No. 256793: RCB No. 757

FROM: J. Garbus, Chemist
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THRU: Charles L. Trichilo, Chief
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TO: W. Miller, PM-16
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The Agricultural Research Division of American Cyanamid Company has submitted a proposed label revision for Cygon® 400 (dimethoate), a systemic insecticide-miticide, to allow ULV applications in once-refined vegetable oil on cotton.

A tolerance of 0.1 ppm in or on cottonseed is established for the total residues of dimethoate, [O,O-dimethyl S-(N-methyl-carbamoylmethyl) phosphorodithioate] including its oxygen analog, [O,O-dimethyl S-(N-methylcarbamoylmethyl) phosphorothioate], dimethoxon, (40 CFR 180.204).

Current registered use allows for the application of dimethoate to cotton in states other than California and Arizona at a rate of 1/4 to 1/2 pt. (0.125 to 0.25 lbs a.i.)/A in sufficient water to insure thorough coverage. Repeat applications can be made at intervals of 14 days with a 14 day PHI. There is no limit on the number of applications that may be mad per season.

The amended directions for use allow for the application of dimethoate diluted with once refined vegetable oil. Rates are the same as with aqueous sprays. At least one quart of finished spray should be applied per acre. When oil is used for dilution the interval between repeat applictions is 40 days and the PHI also is increased to 40 days.

With both aqueous and oil applications there is a restriction on feeding treated forage or allowing grazing of treated fields.

The residue data to support this amended registration consists of the results of the analysis of 1 sample of cottonseed from one plot in Mississippi. The cotton received two ULV aerial applications of dimethoate in cottonseed oil at a rate of 0.3 lb a.i./A (1.2X maximum rate) with an interval of 8 days between applications. The cotton was harvested 37 days after the last application.

The residues of dimethoate and its oxygen analog, dimethoxon, were both <0.05 ppm, below the validated sensitivity of the analytical method.

The proposed RCB guidelines for residue chemistry for ULV applications in oil suggests two options for the generation of residue data. One option assumes that the application rates with oil will be the same as that with conventional aqueous sprays. The registrant under this option should conduct representative trials comparing residues from the oil and aqueous applications. If the residues are found to be higher with the ULV application, either higher tolerances can be proposed or the usage pattern can be revised.

In the present instance the petitioner has chosen to revise the usage pattern. To insure that residues on cottonseed from aqueous application and from ULV application will be similiar, an increase in the PHI, an increase in the interval between applications and a limitation of two applications per season are imposed for the ULV mode of application.

Conclusions and Recommendations

The application of dimethoate in oil as a ULV spray to cotton under the revised usage pattern will result in residues in or on cottonseed below the current tolerance and comparable to those found with conventional aqueous sprays.

We recommend that this request for an amended registration be granted.

TS-769:RCB:J.Garbus:Edited by vg:CM#2:Rm708:X557-3043
cc: Amend Use File, S.F., Circu., PMSD/ISB, Garbus
RDI: A. Rathman, 5/21/85; R. Schmitt, 5/21/85

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