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

SEP 16 1988

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 88-MI-14. Section 18 Crisis Exemption. Diazinon on Soybeans. No MRID #. DEB #4321.

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THRU: Edward Zager, Section Head
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TO: Rob Forrest, PM Team 41
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The State of Michigan has issued a Section 18 crisis exemption for the use of insecticide products containing diazinon on soybeans. Approximately 280,000 acres of soybeans in the southern portion of the lower peninsula are targeted for treatment. Diazinon is O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl)phosphorothioate.

The established tolerances for residues of diazinon in or on soybeans and soybean forage are 0.1 ppm. Tolerances are also established on meat, meat byproducts, and fat of cattle and sheep. No tolerances are established on milk, poultry and eggs [40 CFR 180.153].

The Residue/Product Chemistry chapters of the Diazinon Registration Standard were issued 8/22/86 and updated 3/88.

Diazinon is under special review because of its avian toxicity.

The registered uses on soybeans are early season uses: preplant broadcast soil applications or seedling stage soil (band) applications at 1-4 lbs ai/A.

The crisis use calls for single applications at 0.5 lb ai/A in 2 gallons water (aerial) or 10 gallons water (ground). A PHI

of 7 days is imposed and grazing or feeding is prohibited within 4 days of application.

According to the Registration Standard, the nature of the residue in plants is not adequately understood primarily because none of the metabolism studies reported the percentages of extractable or bound residues from plant samples treated with radiolabeled diazinon and the fate of the pyrimidine ring was not determined.

The nature of the residue in ruminant and in poultry is also not adequately understood (Registration Standard).

No residue data were submitted with this submission. All the residue data discussed in the Registration Standard reflected long PHI's ($\geq$38 days). These data can not be translated to estimate the residues of diazinon on soybeans, forage and hay resulting from the proposed use.

Soybeans, forage and hay are major cattle and poultry feed items. In the absence of residue data on feed items, and without poultry feeding study data, DEB is unable to estimate the amount of secondary residues transferred to meat, milk, poultry and eggs.

CONCLUSIONS AND RECOMMENDATION

1. The nature of the residue in plants is not aequately understood.

2. The metabolism in ruminants and in poultry is not adequatley understood.

3. In the absence of residue data reflecting the crisis use (foliar application, PHI of 7 days), DEB is unable to determine the levels of diazinon in soybeans, forage and hay.

4. DEB is also unable to determine the amount of secondary residues transferred to meat, milk, poultry and eggs.

DEB can not concur with the proposed crisis use of diazinon on soybeans because of Conclusion 1-4.

cc:Circ, RF, Section 18 F, Cheng, PMSD/ISB
RDI:EZager:9/14/88:RDSchmitt:9/14/88
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