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

JUN 2 1983

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 83-VA-04. Proposed Section 18 exemption for the use of iprodione on peanuts in Virginia

FROM: Edward Zager, Chemist
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THRU: Charles L. Trichilo, Chief
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TO: Emergency Response Section
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

The Commonwealth of Virginia requests a Section 18 exemption for the use of iprodione for control of Sclerotinia blight of peanuts.

The proposed use calls for up to 3 ground applications at the rate of 1 lb act/A in 35-50 gal of spray/A with a 30 day PHI.

The metabolism of iprodione in plants and animals was discussed in our review of PP#3G2787/FAP#3H5379 (N. Dodd memo of 3/21/83). The residues of concern in plants are iprodione, its isomer (RP30228)3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and the des-isopropyl metabolite (RP 32490), 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide.

Major extractable residues in animal tissues are iprodione and RP32490. In milk residues are iprodione, RP32490 and the hydroxylated metabolite 1-(3,5-dichloro-4-hydroxyphenyl)-biuret.

The analytical methods used to generate the residue data submitted with this request (Method No.151 or modifications thereof) involve acetone extraction liquid-liquid partition; column chromatography and quantitation by GLC using an EC detector.

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Reported recoveries from nutmeats, hulls and hay fortified with 0.05-10 ppm iprodione, RP-30228 and RP-32490 ranged from 67.4-118% 95.2-119.5% and 103.8-116.8%, respectively.

Residue data submitted with this request reflect 4 studies conducted in Virginia. Following 3 applications of 1 lb act/A (1X) residues of iprodione RP30228 and RP32490 were not detectable (<0.05 ppm for each) at PHIs of 20-32 days except for one sample containing 0.12 ppm iprodione at a 26 day PHI.

Residues in peanut hulls were not detectable (<0.05 ppm) for each moiety at the above PHI's except for one sample containing 0.20 ppm RP-30228 at 32 days after treatment.

Combined residues of iprodione, RP-30228 and RP-32490 in or on peanut hay ranged from 7.99 ppm - 15.44 ppm at 20-32 days after treatment.

Based on the above data we estimate that residues from the proposed use will not exceed:

0.2 ppm in or on peanut meats
0.5 ppm in or on peanut hulls
20 ppm in or on peanut hay

In the absence of residue data for peanut forage a restriction against using peanut forage for livestock feed should imposed on this use.

No peanut processing studies have been submitted. Taking into consideration the high solubility of iprodione in non-polar solvents and a maximum theoretical concentration factor for residues in peanut oil we estimate that residues in peanut oil and soapstock will not exceed 0.5 ppm. No concentration of residues is expected in peanut meal.

Meat, Milk, Poultry and Eggs

A cattle feeding study was previously reviewed in connection with PP#2F2728 (M. Kovacs, 10/25/82). Feeding levels were 5, 15, 50, and 200 ppm for 29 days. In meat, iprodione and its non-hydroxylated metabolites were determined. Iprodione its nonhydroxylated metabolites, and its hydroxylated metabolites were determined in milk. Maximum residues in milk at the 28th day of treatment for levels of 5, 15, 50, and 200 ppm were <0.01, 0.099, 0.196, and 0.389 ppm, respectively. Maximum residues in kidney at 5,15,50, and 200 ppm feeding levels were <0.05, 0.16m 0.80, and 2.87 ppm, respectively. Maximum residues in muscle at 5, 15, 50, and 200 ppm feeding levels were <0.05, <0.05, 0.07, and 0.13, respectively. Maximum residues in liver at 5, 15, 50, and 200 ppm feeding levels were <0.05, 0.13, 0.66, and 1.95 ppm, respectively.

No poultry feeding study has been submitted.

If the use of peanut forage is restricted the major feed items involved in this use will be peanut hay up to 60% and peanut meal and soapstock up to 10% and 5% respectively of poultry's diet.

The resulting maximum dietary burden of iprodione its isomer and its metabolites in livestock diet is as follows 12 ppm for cattle, and <0.03 ppm for poultry.

Based on the above studies and translating residue data for cattle to other livestock we estimate that residues of iprodione and RP-32490 will not exceed 0.15 ppm in kidney and liver and 0.05 ppm in the meat, fat and meat byproducts of cattle, goats, hogs, horses and sheep as a result of the proposed use.

Residues of iprodione, RP-32490 and 1-(3,5-dichloro-4-hydroxyphenyl)-biuret will not exceed 0.1 ppm in milk as a result of the proposed use.

No detectable (<0.01 ppm) residues are expected in poultry and eggs.

Conclusion

1. Residues of iprodione, 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed:

0.2 ppm in peanut meat and peanut meal
0.5 ppm in peanut hulls, oil and soapstock
20 ppm in peanut hay

2. Provided a restriction against feeding of peanut forage to livestock is imposed on this use residues of iprodione and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed 0.15 ppm in the kidney and liver and 0.05 ppm in the meat, fat and meat byproducts of cattle, goats, hogs, horses and sheep and residues of iprodione, 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and 1-(3,5-dichloro-4-hydroxyphenyl)-biuret will not exceed 0.1 ppm in milk from this use.

3. No secondary residues of iprodione its isomer and its metabolites are expected in poultry and eggs as a result of this use.

Recommendation

TOX considerations permitting and provided a restriction against feeding peanut forage to livestock is imposed on this use, we have no objections to the granting of this Section 18 exemption. An agreement should be made with TOX regarding the legal status of the treated commodities in commerce.

cc: Section 18 S.F.
Iprodione S.F.
R.F.
E. Zager
Circu
TOX

RDI:Section Head:RJH:Date:5/23/83:RDS:Date:5/23/83
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