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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Subject: EPA Reg. No. 10163-78; Amended Registration; Azinphos-methyl on Pistachios. No Accession No., RCB No. 1723.

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Gowan Co., Yuma AZ, has requested an amended registration for their insecticide, Gowan Azinphos-M 50 WP; the registrant is proposing the addition of pistachios to the product label.

Gowan Azinphos-M 50 W, EPA Reg. No. 10163-78, is a powdered insecticide containing 50% O,O-dimethyl S-((4-oxo-1,2,3-Benzotriazin-3 (4-H)-yl) methyl) phosphorodithioate, azinphos-methyl, as its active ingredient. The product is sold in both water soluble and non-water soluble 5 lb. packets.

Tolerances are established (40 CFR 180.154) for residues of azinphos-methyl in a number of raw agricultural commodities, including pistachios at 0.3 ppm.

The metabolic nature of azinphos-methyl in or on pistachios was previously discussed in connection with PP#8E2125 (T. McLaughlin, memo of 10-26-78). The residue of concern is the parent compound.

Registered use of azinphos-methyl on pistachios is currently limited, by a Special Local Need [Section 24(c)] Registration of Guthion 50% WP, to California. Pistachios are also grown in Arizona and Texas (see, Pistachio Cultural Practice File). Guthion 50% WP, EPA Reg. No. 3125-301-AA, is a powdered insecticide containing 50% O,O-dimethyl S-((4-oxo-1,2, 3-Benzotriazin-3 (4-H)-yl) methyl) phosphorodithioate, azinphos-methyl, as its active

ingredient. The product is marketed in water soluble paper packets.

The Section 24(c) registration of Guthion 50% WP calls for the application of 5 lbs. (2.5 lbs. a.i.) per acre to control Navel orangeworm on pistachios grown in California. Application is made at the onset of hull splitting but prior to 10% hullsplit.

The proposed amended registration of Gowan Azinphos-M 50 WP calls for the application of 5 lbs. (2.5 lbs. a.i.) per acre to control Navel orangeworm on pistachios. The product is applied as a full coverage spray using not more than 500 gallons of finished spray per acre. Use restrictions include: Make one application at the onset of hull splitting but prior to 10% hullsplit; do not treat within 21 days of harvest; and do not graze livestock in treated groves for 21 days after treatment.

Analytical methodology, adequate for obtaining azinphos-methyl residue data on pistachios and enforcement of azinphos-methyl residue tolerances (0.3 ppm) in or on pistachios, was most recently discussed by RCB in connection with PP#8E2125 (T. McLaughlin, memo of 10-26-78). The method is a colorimetric procedure entitled, Colorimetric Determination of Guthion Residues in Crops, W.R. Meagher, et. al., J. Arg. Food Chem., 8, 282, (1960). The method is reported to have a limit of detection of 0.1 ppm and recoveries ranging from 80 to 100% for samples fortified at 0.1 to 5.0 ppm.

No new residue data were provided with this amended registration request; however, residue data on field treated pistachios were provided to the Agency in connection with IR-4 petition PP#8E2125 (see, T. McLaughlin memo of 10-26-78).

2 field trials conducted in California during 1977, reflect treatment of pistachios at hullsplit stages of 4.4% and 17.2%. Azinphos-methyl was applied at rates of 1.5 lbs. and 3.0 lbs. a.i./Acre using ground spray equipment; nuts were harvested 21 days after treatment. The nut meat from 16 samples were assayed for azinphos-methyl residues; the results are summarized below:

Pistachios Treated at 4.4% Hullsplit Stage

| Rate lbs. a.i./A | PHI | N | Residue (ppm) |
|---|---|---|---|
| Check | 21 | 4 | <0.1, <0.1, 0.1, <0.1 |
| 1.5 | 21 | 4 | <0.1, <0.1, <0.1, 0.1 |
| 3.0 | 21 | 4 | <0.1, <0.1, <0.1, <0.1 |

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Pistachios Treated at 17.2% Hullsplit Stage

| Rate lbs. a.i./A | PHI | N | Residue (ppm) |
|---|---|---|---|
| Check | 21 | 4 | <0.1, <0.1, 0.1, <0.1 |
| 1.5 | 21 | 4 | 0.2, <0.1, <0.1, <0.1 |
| 3.0 | 21 | 4 | <0.1, <0.1, <0.1, <0.1 |

Of the 16 treated samples, 14 contained no residues (ND <0.1 ppm). The 2 finite residues ( 0.1 and 0.2 ppm) resulted from samples treated with 1.5 lbs. a.i. per acre; with the higher residue reflecting application of the pesticide during the 17.2% hullsplit stage.

Meat, milk, poultry and eggs

Pistachios are not a livestock feed item, therefore, no residues are expected to occur in meat, milk, poultry, or eggs as a result of this proposed amended registration.

Conclusions

1. Tolerances are established (40 CFR 180.154) for residues of azinphos-methyl in or on pistachios at 0.3 ppm.

2. The metabolic nature of azinphos-methyl in plants is adequately understood. The residue of concern is the parent compound.

3. The analytical method entitled, Colorimetric Determination of Guthion Residues in Crops, is adequate for enforcement purposes.

4. Residue data provided in support of PP#8E23125 indicate that residues of azinphos-methyl in or on pistachios will not exceed the established tolerance of 0.3 ppm as a result of this proposed amended use.

Recommendation

We have no objection to the proposed amended registration.

cc:R.F.,Circu,Reviewer,S.F.,Amended Use File,PMSD/ISB
RDI:EZ:2/2/87:RDS:2/2/87
TS-769:RCB:FBS:fbs:557-0934:CM#2:RM:814:2/3/87

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