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

OCT 22 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Azinphos-methyl (Guthion®; EPA Reg. No. 10163-78) on Pistachios. Residue data of 5/15/87 to support Amendment of 7/15/86. MRID No. 40248501. RCB No. 2799.

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THRU: A.R. Rathman, Section Head
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TO: Dennis H. Edwards, Jr./Portia M. Jenkins, PM#12
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The Gowan Company of Yuma, Arizona has submitted an amendment to add pistachios to their insecticide label, Gowan Azinphos-M 50 WP [EPA Reg. # 10163-78].

This is the registrant's second submission. A first submission, sans residue data, was previously reviewed by RCB. Based on old residue data (PP#8E2125), we had no objection to that proposed amended registration. (See F. Suhre memorandum of 2/3/87).

The Azinphos-Methyl (Guthion) Registration Standard Product and Residue Chemistry Chapters were transmitted on 4/4/86. There are no pistachio-relevant data gaps.

Tolerances for residues of the a.i., azinphos-methyl [O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] phosphorodithioate] in or on pistachio nuts exist at 0.3 ppm [40 CFR 180.154].

The 50% WP formulation is registered for foliar application only within CA at 2.5 lb ai/A (in 500 gal water). A single application, of not more than 500 gal spray/A, may be made at the onset of hull splitting but prior to 10% hull split. There is a 21-day preharvest interval. Also, livestock may not graze in treated groves for 21-days after treatment. Though pistachios are also grown in AZ, NM, and TX, over 90% are produced in CA.

On August 6, 1986, Gowan's Azinphos-M 50 WP was applied in a single ground spray to 13-year old pistachio trees at the rate of 2.5 lb ai/A at each of two CA locations, viz., Kerman (221 gpa to "maturing nuts" stage-of-crop growth) and Madera (181 to "developing nuts"). Duplicate samples of the nuts were collected 21 days after application, frozen, shipped in dry ice, and stored frozen at 0°F for analysis.

Gowan Azinphos-methyl 50 WP Pistachio Residue data - Summary

	Meats - ppm azinphos-methyl		
Sample	"Guthion PS"		"Guthion PO"
PAI-6986 ck ----------	0.000*	--	0.000*
PAI-6986 spk 0.3 ppm ---	0.291	--	0.253
PAI-6987 - Madera ------	0.079	--	0.000
PAI-6987 D - Madera ----	0.133	--	0.000
PAI-6988 ck ----------	0.000	--	0.000
PAI-6988 spk 0.1 ppm ---	0.087	--	0.074
PAI-6989 - Kerman ------	0.088	--	0.000
PAI-6989 D - Kerman ----	0.038	--	0.000

* limit of detectability = 0.01 ppm Guthion PS and 0.05 ppm Guthion PO; though not further identified in the current submission, we presume (from other data in RCB files) that these are the parent compound (azinphos-methyl) and its oxon metabolite, respectively.

The above pistachio nut meat data [MRID No. 40248501] submitted by Gowan were analyzed on April 20, 1987 by Morse Laboratories, Inc., Sacramento, CA, using, "Mobay Analytical Method No. 69523 with modifications for moist crop extraction and silica gel column cleanup per Morse Project form #65A". Descriptive details of the analytical procedure were not provided.

A sample spiked with 0.1 ppm indicated recoveries of 74 and 87% Guthion PO and -PS, respectively. A corresponding sample spiked with 0.3 ppm indicated respective recoveries of 84 and 97%.

The registrant's current submission of residue data does not alter our aforecited, previous conclusion based on old residue data (PP#8E2125; F. Suhre memorandum of 2/3/87 on RCB No. 1723). Hence, we reiterate that the available residue data 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.

Meat, milk, poultry and eggs

Pistachios are not a livestock feed item and grazing/feeding in orchards is restricted for 21 days after treatment, 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. Though the metabolic nature of azinphos-methyl in plants is not adequately understood, sufficient data are available to ascertain the adequacy of the aforestated tolerance. The residue of concern is the parent compound.

3. Adequate analytical methods for enforcement purposes are available.

4. Residue data provided 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, S.F., Azinphos-Methyl (Guthion) Reg. Std. file, Amended Use file, Dockter, PMSD/ISB
RDI: ARRathman:10/20/87:KHArne:10/20/87
TS-769:RCB:CM#2:RM 802:77886:K.W. Dockter:edited by Kd:10/20/87