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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

JUN 20 1985

MEMORANDUM

SUBJECT: 85-WA-07 (RCB #991) Section 18 Exemption for Iprodione [ROVRAL®] on potatoes in State of Washington.

FROM: William L. Anthony
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Jack E. Housenger PM (41)
Registration Division (TS-767)

THRU: Ed Zager, Section Head
Special Registration Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

The State of Washington, Department of Agriculture, requests an exemption under section 18 of FIFRA for the use of the fungicide iprodione (ROVRAL®) to control Sclerotinia stem/rot on irrigated potatoes in five counties (Benton, Franklin, Grant, Adams, and Walla Walla) in Eastern Washington. The exemption is needed at planting, starting June 10 through July 20, 1985.

Proposed Use

The proposed use will require up to 30,000 lbs ai on an estimated 30,000 acres. The proposed treatment calls for one application of 2 lbs Rhone-Poulenc's ROVRAL®, EPA Registration No. 359-685 (one lb ai/A) by injection through sprinkler irrigation systems. Application should be made in 1/4 to 1/2 acre-foot of water. There is no PHI.

Permanent tolerances are established for the combined residues of the fungicide iprodione [3-(3,5-dichlorophenyl)-N-(1-methylethyl-2,4-dioxo-1-imidazolidinecarboxamide], its isomer [3-(1-methylethyl-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide], and its metabolite [3-(3,5-dichlorophenyl)-2,3-dioxo-1-imidazolidine-carboxamide], in/on several raw agricultural commodities at 10 ppm for kiwi fruit and 20 ppm for several stone fruits (40 CFR 180.399). PP #5E3214 proposing a tolerance of 15 ppm for residues of iprodione in/on raspberry, boysenberry, blueberry and currants is currently under review.

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Permanent tolerances are established for the combined residues of iprodione [3-(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxo-1-imidazolidinecarboxamide], its isomer 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and its metabolites 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and N-(3,5-dichloro-4-hydroxyphenyl)-ureidocarboxamide, (all expressed as iprodione equivalents) in/on: meat, fat, and meat by-products (excluding liver and kidney) of cattle, goats, hogs, horses, and sheep at 0.5 ppm; liver and kidney of cattle, goats, hogs, horses, and sheep at 3 ppm; in eggs at 0.8 ppm; in poultry meat and meat by-products (except liver) at 0.4 ppm; in poultry fat at 2 ppm; in poultry liver of 3 ppm; and in milk at 0.5 ppm.

There are no permanent or temporary tolerances for residues of iprodione, its isomer and its metabolite in/on potatoes.

Metabolism

The metabolism of inprodine is adequately defined (memo: A. Rathman, PP #8G2087, March 2, 1979). For purposes of this section 18 exemption, the residues of concern are the parent iprodione [3,(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxamidazolidine-1-carboxamide], its isomer RP 30228 [3-(1-methylethyl)-N-(3,5,-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide], and its metabolite RP 32490 [3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide].

Analytical Methods

The method used to generate the residue data, Rhone-Poulenc Method 151, is essentially identical to Method I of PAM II. The method measures iprodione, its isomer (RP 30228) and its metabolite (RP 26019).

Recoveries from potato samples spiked from 0.1 ppm to 1.0 ppm averaged 87 percent, 89 percent, and 80 percent for RP-26019, RP 30228, and RP-32490, respectively. The detection limit for each was < 0.05 part per million.

Iprodione (RP-26019), its isomer (RP-30228) and its metabolite (RP-32490) are available as reference standards for EPA's Pesticides and Industrial Chemicals Repository, No 1 in PAM II (May 1984).

Residue Data

Six potato plots, four in Washington and two in Oregon were treated with 1.0 lb ai/A (1x) of iprodione (ROVRAL®). Five of the plots were treated through sprinkler irrigation system; one plot, in Oregon, was treated by conventional spray (2 applications, 2 lb ai/A - #353684-03). The PHI interval from last application ranged from 48 to 73 days, for five plots. Experiment

#354684-040 which received 2 lb ai/A by conventional spray had a PHI of 89 days. With the exception of one sample (#353684-037 at 0.09 ppm) all samples were reported as containing < 0.05 ppm for the ai, its isomer, and its metabolite.

From the available data, we conclude that the combined residues of iprodione, its isomer, and its metabolite in/on potatoes will not exceed 0.1 ppm provided a 50 day PHI is imposed on this use.

Meat, Milk, Poultry, and Eggs

The dietary burden from feeding treated potatoes to cattle 0.03 ppm and poultry 0.02 ppm is insignificant compared to the dietary burden from other feed items with established tolerances such as dry grape pomace (225 ppm) and raisin waste (300 ppm).

Consequently, the established meat, milk, poultry, and eggs tolerances will be adequate to cover secondary residues from this section 18 use.

Conclusion

1. Residues of iprodione, 3-(1-methylethyl)-N-(3,5-dichloro-phenyl)-2,4-dioxo-1-imidazolidinecarboxamide and its isomer 3-(1-methylethyl)-N-(3,5-dichloro-phenyl)-2,4-dioxo-1-imidazolidine-carboxamide and its metabolite, 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed 0.1 ppm in/on potatoes as a result of proposed use provided a 50 day PHI is imposed.

2. The established meat, milk, poultry, and eggs tolerances will not be exceeded as a result of the proposed use.

3. Method I PAM II can be used for enforcement. Reference standards are available from the EPA's Pesticide and Industrial Chemicals Repository.

Recommendation

Tox permitting and provided a PHI of 50 days is imposed, we have no objections to the proposed section 18 emergency use.

An agreement should be made with FDA and USDA regarding the legal status of the treated commodities in commerce.

cc: PMSD/ISB
Reviewer
Cir.
S.F. Iprodione (ROVRAL®)
Sec. 18
RF

JOB:96710:W. Anthony:sg:Kendrick&Co:898-1270:6/14/85:C.Disk