

US EPA ARCHIVE DOCUMENT



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

JAN 7 1986

1-7-86

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 86-WI-01: Proposed Section 18 Exemption for the Use
of Iprodione (Rovral) on Ginseng. RCB No. 311

FROM: Joel Garbus, Chemist $\text{\$}$
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

THRU: Andrew Rathman, Section Head
Special Registration Section I
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C) *ARR*

TO: D. Stubbs / L. Pemberton, PM -41
Registration Division (TS-767C)

and

TOX
Hazard Evaluation Division (TS-769C)

A special exemption under Section 18 of FIFRA has been requested by Wisconsin's Department of Agriculture, Trade, and Consumer Protection for the use of the fungicide iprodione (Rovral/Chipco 26019) to control leaf and stem blight caused by the fungus Alternaria panax on cultivated American ginseng, Panax quinquefolium L. A total of some 2500 acres may be treated under this Section 18.

Iprodione, [3-(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxo-1-imidazolidine carboximide], is the active ingredient constituting 50% of Rovral/Chipco 26019. No tolerances are established for iprodione on ginseng. Therefore, we shall assess this Section 18 application in light of the data submitted to established the tolerances on the similar crops, garlic and dry bulb onions. Tolerances of 0.1 ppm for garlic and 0.5 ppm for dry bulb onions are established for iprodione and metabolites, 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide also designated as RP 30228), and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarbamide (RP 32490) (40 CFR 180.399).

Metabolism and Residue of Concern

Metabolism studies have not been conducted with onions, garlic or ginseng. Radiolabel studies carried out on other plants, i. e., strawberries, wheat, peaches, and lettuce, have shown a

common pathway in the metabolism of iprodione. Based on these studies, RCB, in its review of PP#4F3111 requesting the onion tolerance, (E. Haerberer, memo 11/28/84), has concluded that the metabolism by dry bulb onions would be similar, and that the residue of concern would consist of iprodione, per se, its isomer 3-(1-methyl-ethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide (RP 30228), and the metabolite 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide (RP 32490). For the purposes of this Section 18 request, we consider that the metabolism of iprodione will be similar in ginseng.

Proposed Use On Ginseng

Application of 2 lbs of formulated product (1 lb a.i.) in 100 gallons of water per acre is to be made at approximately weekly intervals from June thru August, for approximately 12 applications. Iprodione will be applied as a foliar spray by ground spray equipment. No restrictions are imposed other than the reporting of each spraying and application to be only by certified applicators.

Analytical Methods

The analytical method (Rhone-Poulenc No. 151) determines the parent compound and the metabolites. Samples are extracted with aqueous acetone, partitioned into ethyl acetate/dichloromethane, and cleaned up by gel permeation chromatography. The parent iprodione and its isomer RP 30228 are separated as one fraction from the metabolite RP 32490 on a Florisil column. The separated fractions are individually subjected to GLC under different conditions for the parent, the RP 30228 isomer and the metabolite RP 32490. The level of sensitivity is given as 0.05 ppm. Recoveries ranged from 83.9% to 111.8% for onion samples spiked with each of the three compounds. We consider the methodology suitable for use with ginseng root.

Residue Data

The dried ginseng root is primarily exported to the Orient where it is used as an herbal medicine in the form of a tea or sauted with meat or other foods. The Wisconsin Department of Agriculture believes that the assumption that this constitutes a food use is questionable. Nevertheless, we will estimate residues on ginseng root based upon residue data for iprodione on bulb onions.

Relevant, prior residue studies of iprodione on bulb onions were conducted with ground application with a lesser number of applications but at equal or greater rates per application at weekly intervals. The cumulative total applied per growing season in these trials was 9 to 20 lbs a.i. compared to the 12 lbs proposed for ginseng. With a PHI of 0 days, residues of the parent ranged from 0.06 to 0.17 ppm at total applications of 9 to 18 lbs active. After PHI's of 7 days or longer no residues were detected. In all trials, where residues of iprodione were found, no residues of the metabolites were found. (W. Anthony, memo of 9/9/84 reviewing the Section 18 request 84-WA-12.)

Estimate of Residue

We estimate, based on trials with dry bulb onions, that the use of iprodione on ginseng requested by this Section 18 will not result in combined residues of iprodione, RP 30228, and RP 32490 in ginseng root greater than the 0.5 ppm tolerance established for dry bulb onions.

Meat, Milk, Poultry and Eggs

As ginseng not considered a feed item for livestock, we do not anticipate problems with secondary residues.

Conclusions

1. For purposes of this Section 18 request, we consider iprodione and its metabolites, 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide, also designated as RP 30228), and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide (RP 32490) to be the residue of concern.
2. An adequate analytical method is available for enforcement purposes. This method is contained in PP#4F3111.
3. Residues in ginseng root will not exceed 0.5 ppm as a result of the requested use.
4. Secondary residues are not a concern for this Section 18 use.

Recommendation

TOX considerations permitting, we have no objections to the proposed Section 18 exemption. An agreement should be made with the FDA regarding the legal status of the treated commodities in commerce.

cc: Sec. 18 F., S.F., R. F., Circ., Reviewer, PMSD/ISB
RDI:ARR:1/7/86:RDS:1/7/86
TS-769C:RCB:JG:jg:557-1864:CM# 2:Rm.708:1/7/86