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

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Reading File

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 84-OR-10. Section 18 emergency exemption for the use of vinclozolin on onions.

FROM: Sami Malak, Chemist
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THRU: Charles L. Trichilo, Chief
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TO: Donald R. Stubbs, PM#21
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Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

The Oregon Department of Agricultur is requesting a Section 18 emergency exemption for the use of the fungicide, vinclozolin, trade name: Ronilan, for control of onion white rot caused by Sclerotium cepivorum on onions (dry bulbs only). It is estimated that 2700 acres, about 28% of all acreage planted to oinion in Oregon, will be treated under the exemption. For this, the Oregon Department of Agriculture is requesting 8100 pounds of the product, equivalent to 4050 pounds of the active ingredient, vinclozolin.

The proposed use calls for a single application at 1.5 lb act/A in 30-150 gallons of water as an in-furrow spray or drench application at planting time.

A detailed description of the manufacturing process of technical vincolozolin is contained in PP#9F2205 (memo of M. Nelson, 7/27/79). Technical vinclozolin is 93% pure. None of the impurities are expected to present any residue problems.

The product to be used is formulated as a 50% wettable powder under the trade name Ronilan Fungicide 50WP, EPA Reg. No. 7969-53. All inerts in the formulation are cleared under 40 CFR 180.1001.

Permanent tolerances are established for residues of vinclozolin: 3-(3,5-dichlorophenyl)-5-ethenyl-5-methyl-2, 4-oxazolidinedione and its metabolites containing the 3,5-dichloroaniline moiety in/on kiwifruit, strawberries and head lettuce at 10 ppm (40 CFR 180.380). Tolerances are pending for residues of vinclozolin in/or peaches and cherries at 4 ppm and plums at 1.0 ppm (PP#2F2650); tomatoes at 1 ppm and cucumbers at 1.0 ppm (PP#4F2998); and in/or leaf lettuce and raspberries at 10 ppm and green and dry bulb onions at 1.0 ppm (PP#3F2934).

The metabolism of vinclozolin in plants (strawberries, grapes, lettuce and peaches) has been discussed in connection with PP#8G2068 (memo of G. Makhijani, 1/19/79), PP#9F2205 (memo of M. Nelson, 7/23/79), and PP#1E2457 (memo of [illegible] Conley, 4/27/81). In all of these studies the metabolic products contained the 3,5-dichloroaniline moiety.

We consider the metabolism of vinclozolin in plants adequately understood. The residues of concern are the parent and metabolites containing the 3,5-dichloroaniline moiety.

The analytical method for residue determination of vinclozolin in crops (Method I, PAM II) is discussed in several petitions (PP#'s 8G2068, 9F2205, 2F2595, 2F2650, 3F2934 and 4F2998). The method involves an alkaline hydrolysis of the parent and acid metabolites that releases 3,5-dichloroaniline which is collected in a 1 N sulfuric acid solution during steam distillation. The 3,5-dichloroaniline in aqueous solution is partitioned with dichloromethane in a cleanup step followed by derivitization with chloroacetyl chloride. The chloroacetyl derivative is determined by gas chromatography using a ^{63}Ni electron capture detector.

Method I of Pesticide Analytical Manual, Volume I may be used for enforcement. The method sensitivity is 0.01 ppm.

No residue data were submitted with this request. Residue data for vinclozolion on onions were submitted and discussed in connention with PP#2F2934 (memo of J.E. Mayes, 2/7/84). Data

available relect three studies from NJ and OR in which vinclozolin was applied in drench at planting or in-furrow at 0.5-4.0 lbs act/A. Results showed total vinclozolin residues in or on dry bulb onion at harvest from non-detectable (<0.05 ppm) to a maximum of 0.18 ppm, reflecting 115-265 day PHI's. The highest value reported reflects 0.5 lb act/A (0.33X) and a 265 day PHI. All other residue values were 0.05 ppm or less.

It is our judgment that residues of vinclozolin and its metobiltes containing the 3,5 dichloroaniline moiety in or on dry onion bulbs will not exceed 0.5 ppm as a result of the proposed use.

Since no feed items are involved in this submission, we conclude that there will be no problem with secondary residues in meat, milk, poultry and eggs.

Conclusions

1. The residues of concern are the parent, vinclozolin, and metabolites containing the 3,5-dichloroaniline moiety.

2. Satisfactory analytical methods are available for enforcement of this Section 18 exemption. The analytical method published in PAM II as Method I, may be used for enforcement

3. Residue of vinclozolin and its metabolies containing the 3,5-dichloroaniline moiety in or on dry onion bulbs will not exceed 0.5 ppm as a result of the proposed use.

4. There will be no problem with secondary residues of vinclozolin in meat, milk, poultry and eggs.

Recommendation

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

cc: R.F., Circu, Reviewer, TOX, Section 18, S.F., Vinclozolin, S.F
FDA, Robert Thompson
RDI:E. Zager:4/18/84:R.D.Schmitt:4/18/84
TS-769:RCB:S. Malak:wh:X77377:CM#2:RM810:4/25/84