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

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Memorandum

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Subject: 86-CA-16. Proposed Section 18 for the Use of Phosmet [Imidan® 50 WP, EPA Reg. No. 476-1917] on Crabapples and Ornamentals. No. 170673 RCB #767

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Thru: Edward Zager, Section Head, SRS 2 *EZager*
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To: Emergency Response Section
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

The California Department of Food and Agriculture requests a section 18 quarantine exemption for the use of phosmet [N-(mercaptomethyl)phthalamide-S-(O,O-dimethylphosphorodithioate)] on crabapples and ornamental plants including hawthorns, chokeberries, bartram, serviceberries, cotoneaster, plums (wild or ornamental), flatwoods, wild or ornamental cherries and rosehips. The pesticide would be used as part of an eradication program aimed at eliminating Apple Maggot infestations in California. Although this section 18 requests use over three years, we will assume that this is a typographical error since quarantine exemptions can be granted for a one year period only (5/15/86 to 5/14/87). The formulation to be used is Imidan® 50 WP, a 50% a.i. wetttable powder.

Tolerances are currently established for residues of Imidan and its oxygen metabolite in or on apples (10 ppm), apricots (5 ppm), blueberries (10 ppm), cherries (10 ppm), cranberries (10 ppm), plums (5 ppm), and the meat, fat and meat by-products of cattle, goats, hogs, horses and sheep (0.2 ppm). No tolerances are pending. A Registration Standard for phosmet is currently being prepared.

The proposed use calls for application of Imidan® 50 WP at a rate of 8 lb. product (4 lb.a.i.)/A for a maximum of 8 applications per season at 10-14 day intervals to all of the

crops listed previously. Applications would be made by ground equipment in 100 gallons of water per acre in both urban and rural areas. A PHI of 7 days would be imposed for all crops.

The metabolism of phosmet is adequately understood for the purposes of this section 18. The residue of concern includes the parent and its oxygen analog.

No residue data for any of the commodities included in this section 18 were included with the submission or submitted previously. Considering the large variety of species associated with hawthorns (genus Crataegus), chokeberries (genus Aronia), bartram, serviceberries (genus Amelanchier), cotoneaster (genus cotoneaster), flatwoods, rosehips, and wild and ornamental cherries and plums; considering the variation in size, shape, and use of plants within some genera; and considering the total lack of knowledge regarding the rate of metabolism of phosmet in some of these commodities; we cannot extrapolate from residue data previously submitted for other crops to any of these crops (except crabapples as discussed below). Therefore, in order for RCB to find favorably for this section 18, a restriction must be imposed prohibiting the use of any commodity treated with phosmet under the authority of this section 18 (except crabapples) as food or feed.

Residue data for apples were submitted with PP#7F0523 (Acc. No. 114727) and PP#6G0455 (Acc. No. 114479). Phosmet residues per se were analyzed by a colorimetric method in which the RAC is extracted with methylene chloride followed by conversion of phosmet residues to anthranilic acid via a Hofmann rearrangement, and derivatization with 3-methyl-2-benzothiazalone hydrazone to a colored product. The limit of detection is approximately 0.1 ppm. Residues of the oxygen analog of phosmet are analyzed by a cholinesterase inhibition method following initial extraction of the blended RAC with benzene.

Residue data for apples are summarized in the Residue Chemistry Chapter of the Registration Standard (pp. 65-71) to be issued shortly. It is concluded that the available data support the established tolerance of 10 ppm for total residues of phosmet in or on apples. The application rate for apples is the same as that proposed for crabapples (4 lb.a.i./A). The PHIs are also the same (7 days). However, because of the smaller size of crabapples, and the concomitant increase in the surface area/volume ratio, we estimate that total phosmet residues in or on crabapples resulting from this use will not exceed 20 ppm.

Meat, Milk, Poultry and Eggs

Commodities other than crabapples included in this section 18 should be restricted from use as food or feed items as

described previously. Additionally, crabapples are not used for animal feed. Therefore, secondary residues are not likely to be found in the meat, fat, and meat by-products of cattle, goats, hogs, horses, sheep, poultry, and milk and eggs; and established tolerances will not be exceeded as a result of the proposed use.

Conclusions

- (1) The metabolism of phosmet is adequately understood for the purposes of this section 18. The residue of concern includes parent phosmet and its oxygen analog.
- (2) Analytical methodology is available for enforcement (PAM II, Method III).
- (3) Total residues of phosmet are not likely to exceed 20 ppm in crabapples when Imidan® is applied as described in the proposed use.
- (4) Established tolerances for the meat, fat and meat by-products of cattle, goats, hogs, horses and sheep are not likely to be exceeded as a result of the proposed use.
- (5) Commodities other than crabapples included in this section 18 should be restricted from use as food/feed items.
- (6) Reference Standards are available from the Pesticides and Industrial Chemicals Repository.

Recommendations

RCB has no objections to this section 18 provided that commodities (other than crabapples) included in this section 18 be restricted from use as food/feed items. Agreements should be made with the FDA and the USDA regarding the legal status of the treated commodities in commerce.

cc:Phosmet (Imidan) S.F., R.F., Section 18 S.F., Circu,
M.Metzger, PMSD/ISB
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