3-19-90 RF

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

MAR 19 1990

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 90-FL-07. Section 18 Exemption for the use of Chlorothalonil (Bravo® 720) on Mango to Control Benomyl resistant Anthracnose (Colletotrichum gloeosporioides). EPA Reg. No. 50534-188. (No MRID #, DEB No. 6397).

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TO: R. S. Cool/S. Stanton, PM - 41
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and
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The Florida Department of Agriculture request a Section 18 exemption for the use of Bravo® 720 to control Benomyl resistant Anthracnose (Colletotrichum gloeosporioides) on mango.

Bravo® 720 (EPA Reg. No. 50534-188) is a registered pesticide of Fermenta Plant Protection Company ; the formulation contains 54% (6 lbs ai/gallon) chlorothalonil (2,4,5,6-tetrachloro--isophthalonitrile) as its active ingredient.

A maximum of 2,900 acres of mango will be treated with a total of 11,600 gallon of Bravo 720 (66,700 lbs ai).

Tolerances are established (40 CFR 180.275) for residues of chlorothalonil (2,4,5,6-tetrachloroisophthalonitrile) and its metabolite 4-hydroxychlorothalonil (4-hydroxy-2,5,6-trichloroisophthalo nitrile) in or on several raw agricultural commodities ranging from 0.05 ppm to 15.0 ppm.

No tolerance for chlorothalonil and its 4-OH metabolite in or on mango have been established.

A Registration Standard and FRSTR have been issued for chlorothalonil. The Residue Chemistry Chapter to the Registration Standard is dated 3/30/84, the FRSTR is dated 3/11 /88 and the draft Guidance Document is dated 9/88.

According to the chlorothalonil FRSTR (page 2 dated 2/19/88), the metabolism of chlorothalonil in plants remains inadequately understood, because unidentified water-soluble metabolites present in plants following exposure to chlorothalonil-treated soil have not been characterized ,and because data are needed pertaining to the nature of chlorothalonil residue in mature plants following foliar application. In addition, data are required to determine whether the impurities in technical chlorothalonil need to be included in the tolerance expression. For the purposes of this emergency exemption the residues of concern are chlorothalonil and its 4-OH-metabolite.

90-FL-07 calls for applications of 1.75 -3.5 pints of Bravo 720 (1.3 -2.6 lb ai)/A. The high rate should be used under favorable disease conditions. Applications should be made with hydraulic air-assisted sprayers which are transported across the ground with tractors or other similar means, and which are properly calibrated to deliver uniform placement of spray preparation. Bravo should be diluted in at least 100 gallons of water to provide thorough coverage of structures susceptible to anthracnose. The first application would begin at flowering and with repeat applications at 7 - 14 day intervals. Do not apply more than 23 pounds ai/A/season. Do not apply more than 18 times/season at the low rate (1.3 lb ai) or 9 times at the high rate (2.6 lb ai) under favorable disease conditions. Do not apply within 21 days of harvest. Do not gaze livestock in treated areas.

Residue data for chlorothalonil on mango were submitted with this Section 18. These data were provided by IR-4 from two field trials in Florida during 1987 and 1988 seasons. Whole fruit samples were analyzed utilizing a GC /ECD method capable of detecting 0.01 ppm chlorothalonil, 0.01 ppm HCB, 0.01 ppm PCBN, and 0.05 ppm SDS 3710 and SDS 46851. Recoveries ranged from 84 to 109% of chlorothalonil and 75 to 104% for the 4-hydroxy metabolite at 0.01 to 1.0 ppm fortification levels.

Eighteen applications for 1988 trial and eight applications for 1987 field trial all at the low rate of 1.3 lb ai/A.

Field trial	lbs/A/ season	PHI days	PPM Chlorothalonil, HCB, PCBN, SDS3701 & 46851				
1987/1988 controls			<0.01	<0.01	<0.01	<0.02	<0.02
1987	10.4	0	1.469-1.488	<0.01	<0.01	<0.02	<0.02
		7	0.520-0.583	<0.01	<0.01	<0.02	<0.02
		14	0.387 -0.405	<0.01	<0.01	<0.02	<0.02
1988	23.4	0	2.56-3.45	<0.01	<0.04	<0.05	<0.05
		7	1.29-1.95	<0.01	<0.015	<0.05	<0.05
		14	0.562-0.761	<0.01	<0.01	<0.03	---
		21	0.075-0.289	<0.01	<0.01	<0.05	<0.05

HCB = Hexachlorobenzene PCBN = Pentachlorobenzonitrile
SDS 3701 = 4-Hydroxy-2,5,6-trichloroisophthalonitrile
SDS 46851 = 3-Carboxy-2,5,6-trichlorobenzamide

Based on these data, we conclude that the residues of chlorothalonil/metabolite will not exceed 0.5 ppm on mango as a result of this Section 18 use (23 lbs ai/A/season, PHI 21 days).

Conclusion

1. For the purpose of this Section 18 request the residues to regulate are chlorothalonil and its 4-OH-metabolite (40 CFR 180.275).

2. Residue data for chlorothalonil/metabolite submitted in connection with this Section 18 indicate that the residues of chlorothalonil/metabolites are not expected to exceed 0.5 ppm in or on mango as a result of this Section 18 use.

3. An analytical method is available for enforcement purposes in PAM II (method I) for residues of chlorothalonil and its 4-OH metabolite. Analytical Reference Standards are available from the pesticide and Industrial Chemicals Repository at Industrial Park, NC.

Recommendation:

Tox consideration permitting, DEB has no objection to this Section 18 for chlorothalonil/metabolite in or on mango. An agreement should be made with FDA regarding the legal status of the treated commodity in commerce.

cc: Chlorothalonil S.F., R.F., ~~Section 24(c)~~ §18, Registration Standard file, Circ., R. Schmitt, Branch Chief, F. Toghrol, PMSD/ISB, DRES (R. Briggs).
RDI: F. B. Suhre (3/16/90): E. Zager: Deputy Chief (3/17/90).
TS-H7509C:DEB:F.Toghrol:F.T.:RM:802:CM#2:557-7887:3/19/90.