

US EPA ARCHIVE DOCUMENT



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

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

FEB 27 1991

MEMORANDUM

SUBJECT: 91-NJ-01. Section 18 Specific Exemption for the use of Chlorothalonil (Bravo® 720F and Bravo® 90DG) on Blueberries to Control Anthracnose (Colletotrichum gloeosporioides).
EPA Reg. No. 50534-188 and 50534-157-34704.
(No MRID #, DEB No. 7658).

FROM: Freshteh Toghrol Ph.D., Chemist *F. Toghrol*
Special Review Section II
Chemistry Branch II Reregistration Support
Health Effects Division (H-7509C)

THRU: Francis B. Suhre, Section Head *Francis B. Suhre*
Special Review Section II
Chemistry Branch II Reregistration Support
Health Effects Division (H-7509C)

TO: R. S. Cool/S. Stanton, PM - 41
Emergency Response Section
Registration Support Branch
Registration Division (H-7505C)

and
Toxicology Branch
Health Effects Division (H7509C)

The New Jersey Department of Agriculture requests a Section 18 exemption for the use of Bravo® 720F EPA Reg. No. 50534-188 and Bravo 90DG (EPA Reg. No. 50534-157-34704) to control Anthracnose (Colletotrichum gloeosporioides) on blueberries.

Bravo® 720F and Bravo 90DG are registered pesticide of Fermenta Plant Protection Company ; Bravo 720 F contains 54% (6 lbs ai/gallon) chlorothalonil (2,4,5,6-tetrachloro-isophthalonitrile) as its active ingredient. Bravo 90 DG contains 90% chlorothalonil as water dispensable granules.

A maximum of 7,600 acres of blueberry will be treated with a total of 8,550 gallons of Bravo 720 (51,300 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-trichloroisophthalonitrile) 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 blueberries have been established. A tolerance for chlorothalonil/metabolites in or on cranberries is established at 5.0 ppm.

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 The Residue Chemistry Chapter to the Registration Standard is dated 3/30/84, the FRSTR is dated 3/11/88 and the draft Guidance Document is dated 9/88.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

91-NJ-01 calls for three applications of 3.0 pints of Bravo 720 (2.2 lb ai)/A/application. Applications should be made with aircraft or ground sprayers, properly calibrated to deliver uniform placement of spray preparation. The first application would begin on March 15, 1991. This Section 18 label is effective from mid-March to December, 1991. Do not apply within 42 days of harvest.

Note to PM

This Section 18 requests for the use of two products Bravo 720 F and Bravo 90 DG (both manufactured by SDS Biotech Corp.), while the proposed use talks only about Bravo 720 F. As long as the rate of application is 2.2 lbs of ai/A/application, number of application is three [1X=(3 applications)(2.2 lb ai)/A/application) = 6.6 lbs/season) and the PHI is 42 days (the same as Bravo 720 F), CBRS has no objection to the use of Bravo 90 DG.

2

Residue Data

No residue data for chlorothalonil in or on blueberries were submitted with this Section 18 request. No data are available for chlorothalonil in or on blueberries. Data are available (PP#3E2939) for residues of chlorothalonil and its 4-OH metabolites in or on cranberries which is in the same crop group (small fruit), and are summarized in table 1 below:

These data were provided by IR-4 from four field trials in MA, NJ, WA and WI during 1981, 1982, 1983 and 1984 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 0.1 ppm for its 4-OH metabolites. Recoveries for chlorothalonil was 98% at fortification levels of 0.2 to 0.4 ppm and for the 4-hydroxy metabolite 97% at 0.2 ppm fortification level.

Bravo 500 was applied to cranberries at 5.2 lbs ai/A/application, with 10 day application intervals and a PHI of 50 days, HCB residues were <0.002 ppm and PCBN residues were <0.05 ppm, 50 days after last treatment. Immediately after the last application (0 day PHI) HCB was detected at 0.19 ppm and PCBN at 5.99 ppm. This assay was done to find the maximum impurity levels of HCB and PCBN on cranberries following the proposed use.

Table 1

Residues of chlorothalonil/metabolites in or on cranberries. Cranberries treated with chlorothalonil (three or four applications at the rate of 5.21 lbs ai/A/application). The residue data for chlorothalonil and its metabolites in or on cranberries grown in 1983 (WA) and 1984 (NJ), with a PHI close to the proposed use in this Section 18 request are presented below. These data reflect several rates of 2.5 to 3 times those proposed by this Section 18 request.

<u>Field trial</u>	<u>lbs/A/season</u>	<u>PHI days</u>	<u>PPM</u>	<u>Chlorothalonil, HCB, PCBN, SDS3701 & 46851</u>			
WA/G	21 (3X)	54	4.28		0.003	0.049	ND
NJ/G	16 (2.5 X)	49	1.37		ND	0.008	ND
NJ/A	16 (2.5 X)	49	0.75		ND	0.006	ND

G= ground application
A= air application

HCB = Hexachlorobanzenes 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 residues of chlorothalonil/metabolite will not exceed 5.0 ppm in or on blueberries as a result of this Section 18 use (6.6 lbs ai/A/season, PHI 42 days). Residues of HCB are not expected to exceed 0.01 ppm.

Meat, Milk, Poultry, and Eggs:

Blueberries are not a feed item, no secondary residues are expected in milk, meat, poultry, and eggs.

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).
 - 2a. Combined residues of chlorothalonil/metabolite are not expected to exceed 5.0 ppm in or on blueberries as a result of this Section 18 use.
 - 2b. Residues of the impurity HCB are not expected to exceed 0.01 ppm as a result of this proposed Section 18 use.
 3. Blueberries are not feed item, therefore no secondary residues of chlorothalonil/metabolite are expected in milk, meat, poultry, and eggs.
 4. The analytical method described in PAM II (method I) should be adequate to determine residues of chlorothalonil and its 4-OH metabolite in blueberries at the regulatory levels of interest.
 5. Analytical Reference Standards for chlorothalonil and its 4-OH metabolite are available from the pesticide and Industrial Chemicals Repository at Industrial Park, NC.
- 4

Recommendation:

TOX considerations permitting, CBRS has no objection to this Section 18. An agreement should be made with FDA regarding the legal status of the treated commodity in commerce.

cc: Chlorothalonil S.F., R.F., Section 18, Registration Standard file, Circ., F. Toghrol, PMSD/ISB, DRES (J. Kariya).
RDI: F. B. Suhre (2/27/91): E. Zager: (2/27/91).
H7509C:DEB:F.Toghrol:F.T.:RM:802:CM#2:557-7887:2/27/91.

5