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

SEP 27 1990

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: ID #90-TX-20. Chlorothalonil[BRAVO®]:Section 18 crisis exemption for use on chili peppers in the State of Texas. [DEB:#6990;MRID: n/a]

FROM: Dennis McNeilly, Chemist *Dennis McNeilly*
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THRU: Francis B. Suhre, Section Head *Francis B. Suhre*
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TO: S. Stanton/B. Cool, PM #41
Emergency Response Branch
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and
Toxicology Branch
Health Effects Division [H7509C]

The State of Texas, Department of Agriculture, has requested a crisis exemption under Section 18 of FIFRA, as amended, for use of the fungicide, chlorothalonil [BRAVO®-720], EPA Reg. # 50534-188, to control Alternaria/Fusarium fungal disease on both the fruit and foliage of chili pepper plants being produced in Hudspeth, Pecos, and Reeves counties.

BRAVO-720 contains 54% chlorothalonil (6 lbs a.i./gal or 720gm/L). This product is produced by the Fermenta ASC Corporation (Mentor, OH).

A maximum of 1200 acres of chili peppers are to be treated, with up to a maximum rate of 1.5 lbs a.i. (1 quart of product) per acre per application. One repeat application would allow for a total of 2400 lbs. of the active ingredient. The requested use is to commence August 10, 1990 and expire August 24, 1990.

Tolerances

Tolerances are established for the combined residues of the parent, Chlorothalonil [2,4,5,6-tetrachloro-iso-phthalonitrile] and its metabolite [4-OH-2,4,5,6-tetrachloro-iso-phthalonitrile] in/on several agricultural commodities ranging from 0.05 ppm to 15 ppm [40 CFR 180.275].

There are no permanent or temporary tolerance for residues of chlorothalonil in/on chili peppers.

Proposed Use

This exemption requests a maximum of two applications at an interval of 10 to 14 days at a rate of 1.5 lbs. of a.i. (1 quart of product) per acre per application. Applications will be made using aerial application only in a spray volume of no less than 5 gallons of water per acre. No more than 3.0 lbs. a.i. (2 quarts of product) may be applied per acre per growing season. No pre-harvest interval was specified.

Metabolism

The metabolism of chlorothalonil in plants is adequately understood for the purposes of this Section 18 request. Chlorothalonil and its 4-hydroxy metabolite are the residues of concern.

Residue Data/Analysis

Data were provided by Fermenta ASC which was collected in field studies in Ohio, North Carolina, Florida, Virginia, and Georgia. The study was conducted on three varieties of peppers: bell, sweet banana, and pimento. One to eleven applications of BRAVO-500 were made at three rates (4.25, 3, 2.5 pts./acre). Pre-harvest intervals (PHI) ranged from 0 to 17 days.

Limited data were available with a zero day PHI, i.e., only four assays. The maximum residue with a zero PHI was 6.82 for chlorothalonil, and 0.03 ppm for its 4-hydroxy metabolite. This level was detected when two application of the fungicide BRAVO-500 were applied at a rate of 2.2 lbs a.i./A per application.

There is more data available for a PHI of seven days, it is summarized in the following table.

<u>Number of Applications</u>	<u>Application Rate (a.i./A)</u>	<u>Residue range (ppm) Chlorothalonil</u>	<u>Residue range 4-hydroxy metabolite (ppm)</u>
4	1.5	0.12 - 1.15	ND - 0.01
5	1.5	1.5 - 2.80	ND

Where, ND = <0.01 ppm

In general, residues of chlorothalonil decreased with increasing pre-harvest interval and increased with increasing rate of application. Based on the limited residue data, we would not expect the combined residue of chlorothalonil [2,4,5,6-tetrachloro-iso-phthalonitrile] and its 4-hydroxy metabolite [4-OH-2,4,5,6-tetrachloro-iso-phthalonitrile] to exceed 2 ppm as a result of this Section 18 exemption.

Analysis: Method I in Pesticide Analytical Manual, Vol. II may be used for enforcement.

Meat, Milk, Poultry, and Eggs

Chili pepper is not a feed item, therefore no secondary residues should result in these commodities.

Conclusions

- (1) No tolerance has been established for residues of chlorothalonil and its 4-hydroxy metabolite in/on peppers.
- (2) For the purposes of this Section 18 request, the metabolism of chlorothalonil is adequately understood. The residues of concern are chlorothalonil and its metabolite, 4-OH-2,4,5,6-tetrachloro-iso-phthalonitrile.
- (3) The combined residues of the parent and its metabolite are not likely to exceed 2.0 ppm in chili peppers as a result of this Section 18 request.
- (4) HCB and PCBN are both manufacturing impurities in chlorothalonil. The residue levels for HCB were ND (<0.003 ppm) for all samples except one (0.004 ppm), at zero day PHI after two applications at 2.2 lbs a.i./A. The residue levels of PCBN were between ND (0.005 ppm) and 0.053 ppm.

- (5) Since peppers are not a feed item, no problem with secondary residues in meat, milk, poultry, and eggs is anticipated.
- (6) Method I in Pesticide Analytical Manual, Vol. II is adequate for enforcement. Analytical Reference Standards for chlorothalonil and its 4-hydroxy metabolite are available from the Pesticide & Industrial Chemicals Repository at Industrial Park, NC.

Recommendation

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

CC: Reviewer; Chlorothalonil [BRAVO®]; FOD/PIB (C. Furlow); DRES (J. Kariya); DEB (R. Schmitt); Sec. 18 File; Circulation.

RDI: FBS, 9/20/90; EZ, 9/25/90.

H7509C: DMM; dmm; CM-2; Rm 800D; X557-0934; 9/18/90