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OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

SECTION 18 EXEMPTION FOR USE OF CHLOROTHALONIL ON ASPARAGUS

TO: S. Stanton/R. Cool, PM Team 41  
Registration Division (H7505C)

FROM: Donna S. Davis  
TP-1, CBTS (H7509C)

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THROUGH: Robert S. Quick, Section Head  
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ID#: 93-MI-0008

DP Barcode: D190807

CBTS#: 11804

Chemical

EPA Approved Common Name: Chlorothalonil

Chemical Name: Tetrachloroisophthalonitrile

Formulation Trade Name: Bravo® 720

Registration#: 50534-188

Class: Fungicide

State or Agency applying for exemption: State of Michigan, Department of Agriculture

Type of exemption: Specific

Reason: To control purple spot (*Stemphyllium vesicarium*) in approximately 10,000 to 12,000 bearing acres of asparagus in Michigan.



## RECOMMENDATION

TOX considerations permitting, CBTS has no objection to the issuance of this Section 18 exemption. An agreement should be made with FDA regarding the legal status of the treated asparagus in interstate commerce.

## CONCLUSIONS

1. The nature of the residue in plants is not adequately understood. However, tolerances have been established for the combined residues of chlorothalonil and its 4-hydroxy-2,5,6-trichloroisophthalonitrile metabolite in or on various plant commodities. Therefore for the purpose of this Section 18 exemption only, CBTS concludes that the nature of the residue in or on asparagus is adequately understood. We will consider the parent and its 4-hydroxy metabolite (SDS-3701) along with the impurity HCB to constitute the residues of concern.
2. There are no animal feed items derived from asparagus. Therefore secondary residues are not expected to occur in meat, milk, poultry and eggs as a result of this proposed use.
3. Method I in PAM II, which is sensitive to residues of chlorothalonil and its 4-hydroxy metabolite, may be used for enforcement purposes. CBTS has recommended (W.T. Chin, 2/22/91) that a second method entitled *General Analytical Procedure for the Determination of Residues of Chlorothalonil, SDS-3701, SDS-46851, HCB, and PCBN on Selected Crops* also be published in PAM II.
4. Analytical reference standards for chlorothalonil are available from Ultra Scientific, N. Kingstown, RI (401-294-9400). The 4-hydroxy metabolite is available from the USEPA Chemical Standards Repository, Research Triangle Park, NC.
5. CBTS anticipates that the combined residues of chlorothalonil and its 4-hydroxy metabolite are not likely to exceed **0.05 ppm on asparagus** as a result of this use. Further, residues of HCB are not likely to exceed 0.003 ppm as a result of this use of chlorothalonil on asparagus.
6. The residue data used in the evaluation of this Section 18 request were generated by Hazelton Laboratories, Madison, WI.

### Proposed Use

Bravo® 720 is to be applied foliarly at a rate of 2 - 4 pints/A (1.5 - 3 lb ai/A) to asparagus ferns at spray volumes of 25 - 50 gal/A. Begin applications after harvest of spears, when conditions favor disease development on ferns, generally when leaf wetness occurs. Repeat applications up to a maximum of 6, at 2 to 4 week intervals until ferns are no longer productive.

Do not apply more than 12 pints of product per acre per growing season (9 lb ai/A/season). Do not apply within 100 days of anticipated harvest of spears during the subsequent growing season.

### Residue Data

CBTS reviewed (W. Anthony, 6/25/90) a 1990 Section 18 exemption request for a similar use of chlorothalonil on asparagus in the state of Michigan (90-MI-07). In our review dated 6/25/90, we concluded that residues of chlorothalonil and its metabolite were not likely to exceed 0.05 ppm. Limited data summaries were provided with the 1990 request. The referenced residue data had been collected from asparagus field trials conducted in OK, MI, WA and CA. Application rates of Bravo® 720 ranged from 1.13 lb ai/A to 3.0 lb ai/A, and the number of applications ranged from 3 to 6, resulting in total crop exposures from 3.39 to 13.5 lb ai/A. PHIs ranged from 97 to 248 days. Chlorothalonil residues in all samples were <0.01 ppm, the method sensitivity limit. No analysis was reported for the 4-hydroxy metabolite or HCB residues.

Subsequent to the 1990 Section 18 request, IR-4 submitted PP#2E04042 proposing the establishment of a tolerance for the combined residues of chlorothalonil and its 4-hydroxy metabolite in or on the raw agricultural commodity, asparagus at 0.10 ppm. The petitioner proposed that Bravo® 720 be applied in a manner identical to this Section 18 request, with the single exception that a maximum seasonal rate was not specified in PP#2E04042.

Magnitude of the residue studies were submitted as part of PP#2E04042 and were reviewed on 11/13/92 (W. Wassell). CBTS concluded that additional information was required to validate the data collection method. Further, the reviewer concluded that without a PHI restriction, the data submitted did not support the proposed use and as a result, the reviewer was unable to draw a conclusion on the adequacy of the proposed tolerance level of 0.1 ppm. Additionally the review cited storage stability deficiencies which precluded a favorable recommendation in response to the petition. It should be noted that much of the data contained in PP#2E04042 appears to be the same field trials referenced in the 1990 Michigan Section 18 request.

Despite the current status of the data, we will include the results from PP#2E04042 in our consideration of likely residue levels as there is no other fully documented field trial data reflecting actual residues resulting from the application of chlorothalonil to asparagus ferns.

Asparagus field trials were conducted in Michigan (2), Oklahoma (3), California and Washington from 1983 - 1988. Three to eight foliar applications of Bravo® 720 were made after the harvest of the asparagus spears to ferns at rates ranging from 1.13 to 3.1 lb ai/A for a total crop exposure ranging from 3.4 to 13.5 lb ai/A/season. Reapplication intervals ranged from 10 to 28 days. PHIs ranged from 97 to 248 days. Residues of chlorothalonil were reported at <0.01, the limit of detection (LOD) for all samples. Residues of SDS-3701 (4-hydroxy metabolite) were also reported at <0.01 (LOD) for all samples. Analysis was also conducted to determine HCB residue levels. The analysis yielded HCB residue levels of <0.003 (LOD) for all samples. We therefore conclude that the combined residues of chlorothalonil and its 4-hydroxy metabolite

are not expected to exceed **0.05 ppm** as a result of this Section 18 use on asparagus. Further, residues of HCB are not expected to exceed 0.003 ppm as a result of this Section 18 application of chlorothalonil to asparagus ferns.

**ADDITIONAL INFORMATION**

Tolerances are set for the combined residues of chlorothalonil and its 4-hydroxy metabolite under 40 CFR §180.275 in or on various raw agricultural commodities.

cc: circ., RF, Chlorothalonil Reg Std File, Chlorothalonil Section 18 File, DDavis, RGriffin.  
H-7509C:CBTS:DSD:CM#2:Rm804:305-7085:dd:5/11/93.  
RDI:SecHd:RSQuick:5/11/93:BrSrSc:RALoranger:5/11/93.  
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