4-16-91 RCF.

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

APR 16 1991

MEMORANDUM:

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 91-CA-0016. Section 18 Specific Exemption.
Triadimefon (Bayleton) on Tomatoes (Fresh Market and Processing).
No MRID No. DEB No. 7852. DP Barcode No. D163277.

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The California Department of Food and Agriculture has requested a reissuance of a Section 18 specific exemption for the use of the fungicide Bayleton® (triadimefon) to control powdery mildew on tomatoes. The active ingredient is [1-(4-chlorophenoxy)-3,3-dimethyl-1(1H-1,2,4-triazol-1-yl)-2-butanone]. The request is to use Mobay Chemical Corporation products Bayleton 50% Dry Flowable Fungicide, Bayleton 50% Wettable Powder, and Bayleton 50% Wettable Powder in Water Soluble Packets. EPA Registration Numbers respectively are 3125-320-ZA, 3125-320-AA, and 3125-340-AA. Up to 70,000 acres may be treated.

The assignment instructions are to provide residue estimates for the proposed use of Bayleton on tomatoes under emergency exemption. Assignment instructions note that this is the 9th year this use has been requested under section 18. Exemptions have been issued to California every year since 1983 but the request has not been reviewed by CB since 1989. In the past, the exemption has allowed different application patterns for fresh and processed tomatoes. Assignment instructions are to address this issue in the review.

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CB (then DEB) had no objections to an exemption request made in 1989 (89-CA-16, L. Cheng, 4/1/89). DEB concluded that combined residues of triadimefon and its metabolites were not likely to exceed 0.5 ppm in or on tomatoes, 1 ppm in or on catsup and tomato paste, and 7 ppm in or on dry tomato pomace as a result of the proposed use.

Tolerances for triadimefon and its metabolites containing chlorophenoxy and triazole moieties have been established on a variety of commodities at levels ranging from 0.04 ppm to 145 ppm including milk, eggs, meat, fat and meat byproducts of hogs and poultry at 0.04 ppm, and the meat, fat, and meat byproducts of cattle, goats, horses, and sheep at 1 ppm (40 CFR 180.410). Food and feed additive tolerances have also been established on milled fractions (except flour) of barley and wheat at 4 ppm (40 CFR 185.800), grape pomace at 3 ppm, apple pomace at 4 ppm, and raisin waste at 7 ppm (40 CFR 186.800).

Petition PP4F3148/FAP4H5443 proposed tolerances for residues of triadimefon and its metabolites in or on tomatoes at 0.2 ppm, tomato catsup and tomato paste at 1 ppm, and dry tomato pomace at 4 ppm. The first review was completed 2/14/85 (M. Firestone). The petition was in reject status for several years due to several deficiencies. DEB now considers deficiencies it identified resolved, and toxicological considerations permitting, recommended the establishment of a tolerance for the combined residues of triadimefon and its metabolites of 0.3 ppm in or on tomatoes; and recommended food additive tolerances for the combined residues of triadimefon and its metabolites of 1.0 ppm in tomato catsup and tomato paste, and 5.0 ppm in tomato pomace (L.F. Rodriquez, 5/7/90).

The present proposed labels for Bayleton Wettable Powder and Bayleton Wettable Powder in Water Soluble Packets specify application of 1-2.5 oz ai/A by ground spray, with applications not less than 10 days apart, with not more than 10 oz ai/acre per season, and a proposed PHI of 1 day. (PP4F3148).

Registration Standard. None has been done on triadimefon. A Phase 4 Review has been completed (S.R. Funk, 1/24/91, Triadimefon, Part B Registration File).

Metabolism. M. Firestone's 2/14/85 review concluded that the nature of triadimefon in plants (tomatoes) and animals is adequately understood. The residues of concern consist of the parent compound and its metabolites containing the chlorophenoxy and triazole moieties.

Proposed Use would allow applications of 1-2.5 oz ai/A in 20 or more gallons of water by ground and 10 or more gallons of water by air. For fresh market tomatoes, a maximum of 8 applications at 10-21 day intervals would be allowed, with a PHI of 24 hours.

For processing tomatoes, a maximum of 2 applications at 10-21 day intervals would be allowed, with a PHI of 21 days. California believes that these provisions are not expected to result in combined residues of triadimefon and its metabolites in excess of 0.5 ppm in or on fresh market tomatoes and 0.01 ppm in or on processing tomatoes and tomato processing fractions. California belives secondary residues are not expected to exceed established tolerances for meat, milk, poultry, and eggs.

Analytical Method. Methods I and II, as described in Pesticide Analytical Manual, are adequate for enforcement purposes. In addition, Mobay Method No. 80488 has been tested by methods trial and validated for determination of triadimefon and metabolites relevant to 40 CFR 180.410 on plant commodities (M. Firestone, 4/3/86, PP4F3148).

Field Trial Data. No residue data were submitted with this Section 18 reissuance request.

Tomato residue data were submitted in PP4F3148. Field trials were conducted at 11 sites in 8 states from major growing areas. Tomatoes were treated with 4 applications (5 in one trial) at 2.5 oz ai/A. The average interval between the final two applications was 14 days. Intervals between applications were generally 9-21 days, with one interval of 28 days in one test. In one trial, the first application was made by air. All other applications were by ground spray. Tomatoes were analyzed for the parent compound and its metabolites. At 1 day PHI the combined residues ranged from <0.01 to 0.12 ppm. Samples 7 day PHI ranged from <0.01 to 0.05 ppm. Controls had <0.01 ppm residues. Bayleton metabolites other than Baytan (the hydroxy derivative) were not detectable in these field trials.

Tomato residue data more appropriate for the proposed application pattern were submitted with PPOE2393. Field trials were conducted at four sites in Mexico. In each trial, tomatoes were treated with 8 applications at 2.5 oz ai/A for each application. All applications were by ground spray; application intervals for each trial were 13,7,7,7,7,7, and 7 days. Samples at 0 days PHI showed residues of Bayleton and Baytan with ranges of 0.08 to 0.15 ppm; samples at 5 days PHI showed residues of these compounds of 0.02 to 0.08 ppm; no data were presented for 1 day PHI.

Processing Data were submitted with PP4F3148. Tomatoes were selected from a test in which the fruit was treated with four aplications at the rate of 2.5 oz ai/A each, at 14-day intervals. Tomatoes for processing containing 0.09 ppm combined residues at 0 days PHI were processed. Results showed combined residues of 0.05 ppm in juice, 0.22 ppm in catsup, 0.07 ppm in puree, 0.17 ppm in paste, 0.32 ppm in wet pomace, and 1.31 ppm in dry pomace.

Meat, Milk, Poultry, and Eggs. Dry pomace may be fed to cattle up to 25% of their diet and wet pomace may be fed to poultry up to 3% of their diet (EPA, Pesticide Assessment Guidelines, Subdivision O, Residue Chemistry), equivalent to a 1.25 ppm and 0.15 ppm dietary burden, respectively, based on the recommended tolerance.

Cattle and poultry feeding studies were submitted with PP2F2665. Feeding studies were performed with a 1:1 mixture of triadimefon and its metabolite KWG519 (Baytan). Combined residues (parent and metabolites) were analyzed. Total residues in cattle tissues at the 25 ppm feeding level were: kidney, 0.412 ppm; liver, 0.093 ppm; fat, 0.024 ppm; muscle, <0.01 ppm; and milk, 0.004-0.014 ppm. When laying hens were fed at the 10 ppm and 25 ppm level, the maximum residues found in liver were 0.045 ppm and 0.085 ppm, and in eggs were 0.031 ppm and 0.071 ppm, respectively.

Conclusions

1. The nature of triadimefon in tomatoes and animals is adequately understood. The residues of concern consist of the parent compound and its metabolites containing the chlorophenoxy and triazole moietities.

2. The combined residues of triadimefon and its metabolites are not likely to exceed the recommended tolerances of 0.3 ppm in or on tomatoes, 1.0 ppm in tomato catsup and tomato paste, and 5.0 ppm in tomato pomace as a result of this Section 18 proposed use.

3. CBII-RS concludes that the established meat and milk tolerances would not be exceeded as a result of the proposed use.

4. Methods I and II, as described in Pesticide Analytical Manual, and the validated Mobay Method No. 80488, are adequate for enforcement purposes.

5. Reference standards of triadimefon are available from the Pesticides and Industrial Chemicals Repository at RTP, NC.

6. With regard to California's provisions for fresh market and processed tomatoes, present tolerance recommendations do not distinguish between these categories. California's provisions for tomatoes intended for the process market add an extra margin of safety.

7. California officials should be advised of the difference between the recommended tolerance provisions and the provisions of this Section 18 request. Should a tolerance be established for Bayleton on tomatoes, it is likely that California growers will be required to change from the practices used under this exemption. It is likely that aerial spraying will not be

specified, and no more than 10 oz ai per acre per season may be applied.

Recommendation

Toxicological considerations permitting, CBII-RS has no objections to the reissuance of this section 18 exemption. An agreement should be made with FDA regarding the legal status of the treated tomatoes and tomato byproducts in commerce.

cc:Circ, RF, Section 18, DRES, Abbotts, PIB/FOD (C. Furlow)
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