

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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SUBJECT: EPA Reg. No. 239-2418 Acephate (ORTHENE) on lettuce.

FROM: Richard Loranger, Chemist
Residue Chemistry Branch (TS-769)

Richard Loranger

TO: William H. Miller, PM Team 16
Registration Division (TS-767)

THRU: Robert J. Hummel, Head, Special Review Section
Residue Chemistry Branch (TS-769)

RJ Hummel

Richard D. Schmitt, Deputy Branch Chief
Residue Chemistry Branch (TS-769)

Richard D. Schmitt

Willa Y. Garner, Acting Chief
Residue Chemistry Branch (TS-769)

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The Ortho Agricultural Chemicals Division of Chevron Chemical Company is requesting removal of the geographical restriction and revision of the preharvest interval for acephate (ORTHENE) on crisphead lettuce.

The current label allows applications of ORTHENE 75S (75% soluble powder) at the rate of 1/2-1 lb ai/A (up to 5 lb ai/A per season) in California, Arizona, Florida and New Mexico only. No applications are allowed after the first head begins to form. Feeding trimmings or grazing of treated areas is prohibited.

The proposed amended label reads as follows: "For spring, summer and early fall crops in all areas and winter crops in Florida and Texas do not apply within 21 days of harvest. For late fall crops in Arizona and winter crops in Arizona and California do not apply within 21 days of harvest except that for crops which germinate from mid-Sept. thru November in desert areas, do not apply after first head begins to form." The application rates and grazing/feeding restrictions are the same as those on the present label.

Tolerances are established for combined residues of acephate (O,S-dimethyl acetylphosphoramidothioate) and its cholinesterase-inhibiting metabolite O,S-dimethyl phosphoramidothioate (tradename Monitor) at 10 ppm on head lettuce (of which no more than 1 ppm is the metabolite Monitor) (40 CFR 180.108). This tolerance was established in connection with PP#3F1375.

The petitioners have submitted 17 new residue studies (NY-4, NJ-4, CO-3, WI-2, TX-2, FA-1, HA-1) as well as 16 studies from Arizona and California which were submitted previously in an amendment to PP#3F1375. The analytical method used involves ethyl acetate extraction, silica gel column cleanup, and measurement of both acephate and its metabolite (Monitor) by GC with a thermionic detector.

All of the new studies (one via calculation) report the residues for the whole heads including undamaged wrapper leaves. This complies with the requirement that residue data be submitted on lettuce in the form in which

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it moves in interstate commerce (memo, J. G. Cummings, 2/28/73). Total residues ranged from 0.02 to 6.3 ppm for application rates of 0.4-2.4x (2-12 lb ai/A per crop) with PHI's of 2-25 days. Three of the N.J. studies and both Wisconsin studies had PHI's (29-41 days) much longer than the proposed 21 days. However, in light of the very low total residues (0.00-0.67 ppm) in these studies and residues being well below the 10 ppm level in the other studies, we conclude that total residues from the proposed spring - summer-early fall uses (also Florida-Texas winter uses) will not exceed the established tolerance of 10 ppm. Residues of the metabolite Monitor were well below the established tolerance of 1.0 ppm in all cases (ND-0.48 ppm).

No new residue data was submitted for California and Arizona, the two major producers of lettuce. Data from the amendment to PP#3F1375 indicates that the PHI for the winter desert crop can not be reduced from first head formation (about 35 days) to 21 days. Therefore, we concur with the petitioner on retaining the present limitation for the winter desert crop. I spoke with Mr. Frank W. Zink, Research Specialist, Univ. of Calif., Davis (memo of telephone conversation, 10/14/80) to determine whether any other California or Arizona crops are of the slower maturing type and thus perhaps require the longer PHI (i.e., 35 days or first head formation). He stated that the crops planted in mid-Sept. thru November in the desert require a longer growing season (90-120 days) than other crops due to cooler weather. Unusually long periods of cooler weather were responsible for illegal residues of the insecticide Monitor (acephate's metabolite) in California in 1973 due to small heads and less trimming of wrapper leaves. Mr. Zink also said that no crops are planted in Dec.-Jan. in the California desert. Crops planted in Arizona at that time would be of the faster maturing type (60-75 days) and have head formation start about 21 days before harvest as would spring-summer-fall crops in other parts of the country. Residue data in PP#3F1375 support the 21 day PHI for the late fall crop in Arizona (8/23-9/12 planting, 11/5-11/19 harvesting). Seven applications of 1.0 lb ai/A (1.4x) resulted in total residues of 3.3-9.1 ppm at PHI's of 19-21 days. Thus, we conclude that residues of acephate plus its metabolite on lettuce from the proposed uses in California and Arizona will not exceed 10 ppm.

As there is a feeding/grazing restriction for the treated trimmings, there will be no secondary residues in meat, milk, poultry and eggs.

Conclusions and Recommendations

1. Combined residues of acephate and its metabolite on lettuce will not exceed the established tolerance of 10 ppm for spring-summer-early fall crops at the amended PHI of 21 days and for winter desert crops (germination mid-Sept. thru Nov.) in Arizona and California receiving no applications after first head formation (present label).
2. There will be no residues in meat, milk, poultry and eggs from the proposed use.

We recommend for the amended registration.

cc: Reading file
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Reviewer
Acephate S.F.

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