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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: SD-870003: Section 24(c) Registration of ORTHENE 75 S Soluble Powder (Acephate) to control grasshoppers on range and pasture grass. MRID No. 197274; RCB No. 2463.

From: Francis B. Suhre, Chemist *Francis B. Suhre*
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Thru: Edward Zager, Section Head
Special Registration Section II *Susan D. Hummel*
Residue Chemistry Branch *for*
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To: William Miller, PM-16
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Registration Division (TS-767C)

The South Dakota Department of Agriculture has issued a Section 24 (c) registration for use of ORTHENE 75 S Soluble Powder to control grasshoppers on range and pasture grass.

ORTHENE 75 S Soluble Powder, EPA Reg. No. 239-2418, is a registered trademark of Chevron Chemical Co., ORTHO Agricultural Chemical Division. The product contains 75% acephate [O,S-dimethyl acetylphosphoramidothioate] as its active ingredient.

Tolerances are established (40 CFR 180.108) for combined residues of acephate and its cholinesterase-inhibiting metabolite methamidophos [O,S-dimethyl phosphoramidothioate] in or on several raw agricultural commodities. 40 CFR 180.108 tolerances applicable to this Section 24 (c) registration include: grass (pasture, range, and hay) at 15.0 ppm; milk at 0.1 ppm, and fat, meat, and mbyp of cattle at 0.1 ppm)

A Registration Standard for acephate was issued 1-27-82.

ORTHENE 75 S Soluble Powder is registered for the control of grasshoppers on pastures, rangeland, and wastelands as follows: apply 1/8 to 1/6 lbs. (0.094 to 0.125 lbs. a.i.) per acre in a minimum of 0.5 gallons of spray solution by air, or 10 to 20 gallons per acre with ground equipment. Use restrictions include: do not apply when lactating cattle are present; do not pasture or feed treated hay to lactating dairy cattle within 21 days of application; do not remove hay from treated areas within 21 days of application; remove meat animals from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application; and do not make more than one application per season.

SD-870003 calls for use of ORTHENE 75 S Soluble Powder at a maximum rate of 0.19 lb. a.i. per acre, a 50% increase over the registered rate. Use restrictions are identical to those on the registered label.

No residue data were provided with SD-870003, however, acephate residues on treated grass are discussed in the Oct. 5, 1984, Addendum to the Acephate Registration Standard. Data applicable to the proposed 24 (c) are summarized as follows: combined acephate residues on range grass/range vegetation treated with 0.25 lb. a.i. per acre declined from 11-24 ppm on days 0-3 to 1.6 to 7.0 ppm on days 13-17. In a similar field trial, combined acephate residues on range grass treated with 0.5 lb. a. i. per acre decreased from 34-83 ppm on the day of treatment to 12-22 ppm on days 13 to 17 after treatment.

Since it is impractical to enforce a PHI for beef cattle grazing on range land, we will use the data reflecting a zero day PHI.

Based on these data, the maximum residue expected at a zero day PHI would be 31.5 ppm ($83 \text{ ppm} \times 0.19/0.5$), or ca 2x the established tolerance; therefore, a tolerance of 40 ppm would be needed to cover the residues from the proposed use.

Conclusions:

1. The metabolic nature of acephate in plants is adequately understood. The residues of concern are acephate, per se, and its cholinesterase-inhibiting metabolite methamidophos.
2. The gas chromatography method described in PAM II (Acephate Method I) is adequate for enforcement of the established tolerance for combined residues of acephate (15 ppm) in or on grass (pasture, range, and hay).
3. Available residue data indicate that the established tolerance for combined residues of acephate (15.0 ppm) in or on grass (pasture, range, and hay) could be exceeded as a result of this Section 24(c) registration.

Recommendation

We recommend against this Section 24 (c) registration.

cc:R.F.,S.F.,Circu,Reviewer,Section 24 (c) file,PMSD/ISB
RDI:SH:7/7/87:RDS:7/7/87
TS-769:RCB:FBS:fbs:557-1883:CM#710:7/8/87

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