PMSD/ISB
2288

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

APR 19 1988

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 88-NE-01. Section 18 Specific Exemption. Sethoxydim on Field Corn Grown for Grain. No MRID #. RCB # 3628.

FROM: Leung Cheng, Chemist
Special Registration Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

THRU: Edward Zager, Section Head
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

TO: D. Stubbs/R. Forrest, PM Team 41
Registration Support and Emergency Response Branch
Registration Division (TS-767C)

The Nebraska Department of Agriculture has requested a Section 18 emergency exemption for the use of Poast* to control shattercane in field corn grown for grain. The active ingredient is 2-(1-(ethoxyimino)butyl)-5-(2-(ethylthio)propyl)-3-hydroxy-2-cyclohexen-1-one (aka BAS 9052 H) or sethoxydim.

Tolerances for the residues of sethoxydim and its metabolites containing the 2-cyclohexene-1-one moiety, calculated as sethoxydim, are established in or on various raw agricultural commodities including alfalfa forage and hay at 40.0 ppm, soybeans and soybean hay at 10.0 ppm, cottonseed at 5.0 ppm, meat, meat by-products, and fat at 0.2 ppm, milk at 0.05 ppm, and eggs at 0.5 ppm [40 CFR 180.412].

The proposed use would allow postemergence sprays at 0.2 lbs ai/A in 10-20 gallons water directed toward the base of the corn plant that is 30 inches minimum in height. Only 1 application is permitted. No preharvest interval has been specified on the label.

Some preliminary data on the metabolism of carbon-14 labeled sethoxydim at the C-4 position on corn (from Table 2 of Report # M871) were attached. Following 0.1 lb ai/A treatment to field corn, total radioactive residues 28 days after treatment (DAT) were 0.04 ppm BAS 9052 H equivalents on kernel, 0.03 ppm on cob, 0.06 ppm on fodder, and 0.01 ppm on husk; those at 48 DAT were

0.06 ppm on kernel, 0.03 ppm on cob, 0.03 ppm on fodder, and 0.02 ppm on husk.

For the purposes of this Section 18 request and on the basis of the above metabolism study results, RCB considers the parent compound to be the residue of concern. RCB further estimates that residues are not likely to exceed 0.10 ppm on corn grain, 0.05 ppm on fodder, and 0.05 ppm on forage, provided a 50-day PHI and a 50-day grazing/feeding restriction are imposed on the proposed label.

Since the tolerances on alfalfa forage and hay have been established at 40.0 ppm and that these are major cattle feeding items, the dietary contribution from sethoxydim-treated corn feed items is comparatively insignificant. RCB concludes that the established meat and milk tolerances are adequate to cover residues from the proposed use.

Corn grain may be fed up to 70% in poultry's diet. The dietary burden would be 0.07 ppm (70% x 0.10). Feeding study results discussed in M. Nelson's review of 7/23/82 in connection with PP2F2670 showed <0.05 ppm BAS 9052 H equivalents in poultry muscle resulting from a 10 ppm feeding level, <0.05 ppm in poultry liver (1.0 ppm level), $\leq$ 0.05 ppm in eggs (1.0 ppm level). RCB concludes that the established tolerances on poultry and eggs will not be exceeded as a result of the proposed use.

CONCLUSIONS AND RECOMMENDATION

1. For the purposes of this Section 18 request, RCB considers the residue of concern to be the parent compound.

2. A method is available for determining sethoxydim residues in corn resulting from this emergency use. The method is Method I in PAM II.

3. Residues of sethoxydim are not likely to exceed 0.10 ppm in or on corn, 0.05 ppm in or on fodder, 0.05 ppm in or forage as a result of the proposed emergency use provided that a PHI of 50 days and a 50-day grazing/feeding restriction are imposed on the label.

4. RCB concludes that the established meat, milk, poultry, and eggs are adequate to cover the residues resulting from the proposed use provided a 50-day grazing/feeding restriction is imposed on the label.

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

TOX considerations permitting, RCB has no objections to this Section 18 request provided a PHI of 50 days and a 50-day grazing/feeding restriction are imposed on the proposed label. An agreement should be made with FDA regarding the legal status of the treated corn commodities in commerce.

cc:Circ, RF, Section 18 F, Cheng, S. Stanton (TAS), PMSD/ISB
RDI:EZager:4/19/88:RDSchmitt:4/19/88
TS-769:RCB:CM#2:Rm810:Cheng:4/18/88:1:4/19/88