



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

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OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

M E M O R A N D U M

SUBJECT: 85-NJ-02, -03, -04, and -05  
(RCB# 978-78-80-81)  
(Acc# 149340, -341, -342, -343)

Section 18: Sethoxydim  
(POAST®) on lettuce,  
cabbage, cantaloupe &  
cucumbers, and onions

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A specific exemption under section 18 of FIFRA has been requested by the State of New Jersey for the use of the herbicide sethoxydim (Poast®) on lettuce, cabbage, cantaloupes and cucumbers and onions to control various grass weeds. The period of exemption would be from April 1, 1985, to October 1, 1985.

Residues of sethoxydim (Poast®; EPA Reg. No. 7679-58; BAS 9052H; 2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)-propyl]-3-hydroxy-2-cyclohexene-1-one) and its metabolites containing the 2-cyclohexene-1-one moiety (calculated as the herbicide) (40 CFR 180.412) are: cottonseed - 5 ppm, cottonseed soapstock - 15 ppm, soybean seeds - 10 ppm, milk - 0.05(N) ppm, eggs - 0.5 ppm, and the fat, meat by-products and meat of cattle, goats, hogs, horses, poultry and sheep - 0.2 ppm. Section 18 exemptions for similar uses have been granted: Lettuce (83-NJ-24), cabbage (83-NJ-23), and cantaloupe/cucumbers (83-NJ-25 and 83-NJ-26) (Memo of R. Loranger, June 27, 1983).

Section 18 requests for use of sethoxydim on onions were previously reviewed by: R. Loranger, (93-NJ-32), June 27, 1983; (83-IA-03), July 1, 1983; and by E. Zager, (83-CA-54), June 20, 1983; (83-OH-06), April 20, 1983; and (83-OH-06), June 23, 1983.

### Proposed Use

Lettuce, cabbage, cantaloupe, and cucumber plants will receive one postemergence application of 0.2 lb act/A plus 1 percent crop oil concentrate. Onions will receive the same treatment without the oil concentrate.

Lettuce: Up to 20 percent of about 3000 acres in NJ (including Cumberland, Atlantic, Gloucester, Salem, and Warren counties) will be treated with sethoxydim. A total of 120 lb act will be required. A 30-day PHI is proposed.

Cabbage: Up to 25 percent of about 3300 acres in NJ (Cumberland, Atlantic, Gloucester, Salem, Monmouth, and other counties) will be treated with sethoxydim. A total of 165 lb act will be required. A 45-day PHI is proposed.

Cantaloupe and Cucumbers: Up to 25 percent of about 4000 acres in NJ (Cumberland, Atlantic, Salem, and Gloucester counties) will be treated with sethoxydim. A total of 200 lb act will be required. A 60-day PHI is proposed.

Onions: Up to 25 percent of about 500 acres in NJ (Cumberland, Salem, Gloucester, and Warren counties) will be treated with sethoxydim. A total of 25 lb act will be required. A 30-day PHI is proposed.

### Analytical Procedure

The methodology to determine residues of sethoxydim and metabolites in lettuce, cabbage, cantaloupe, cucumbers, and onions was described in the memo of R. Loranger, June 27, 1983. The method known as "Method 30" (Report Dr-6) was initially submitted in PP# 2F2670.

Data submitted in support of various section 18 exemptions revealed recoveries of 75-110% for samples spiked with 0.05-5.0 ppm of sethoxydim and 5-hydroxy-sulfone metabolite. Detection limit was <0.05 ppm.

Sethoxydim is available as a reference standard from EPA's Pesticides and Industrial Chemicals Repository. Enforcement method in PAM II (November, 1984) is available for animal tissues, eggs, milk, and soybeans.

### Residue Data

No residue data have been submitted with this section 18 request.

Data which reflected total residues of sethoxydim and its metabolites containing the 2-cyclohexene-1-one moiety were reviewed in connection with a previous section 18 request (memo: R. Loranger, June 27, 1983).

Residues ranged from below detection levels to 0.37 ppm:

<u>crop</u>	<u>lb ai/A</u>	<u>PHI</u>	<u>ppm</u>
lettuce	0.5 lb	16, 45	≤0.05
cabbage	"	43, 50	0.17, 0.05
cantaloupe	"	49, 76	≤0.05
cucumbers	"	14-41	<0.05-0.37
onions	"	36, 78, 87	≤0.05

In our review of the above data (R. Loranger, June 27, 1983) we commented that although the above trials indicated no or only trace residues on some crops, a representative picture of residues could not be drawn because of the limited number of samples and locations. However, we did conclude that 1.0 ppm could be considered a reasonable maximum for residues of sethoxydim and its metabolites resulting from treatments under this exemption. We note that residues of up to 0.8 ppm were detected in a root crop (garlic) and seed and pod vegetables, following a sample treatment of 0.5 lb act/A with as little as a 23-day PHI.

Based upon the limited data we conclude that residues of sethoxydim and its metabolites containing the 2-cyclohexene-1-one moiety in or on lettuce, cabbage, cantaloupe, cucumbers, and onions are not expected to exceed 1.0 ppm from the proposed use.

### Meat, Milk, Poultry and Eggs

Since none of these RACs are feed items, there is no concern with secondary residues of sethoxydim and its metabolites in meat, milk, poultry, and eggs as a result of the proposed uses.

### Conclusions

1. Residues of sethoxydim and its metabolites containing the 2-cyclohexene-1-one moiety in or on lettuce, cabbage, cantaloupe, cucumbers, and onions are not expected to exceed 1.0 ppm from the proposed use.

2. An enforcement method for residues of sethoxydim and its metabolites is available in PAM II (11/84) Method I. This method may be applied to the commodities treated under this exemption for tissues, eggs, milk, and soybeans. Sethoxydim is available as a reference standard from the EPA Pesticide and Industrial Chemicals Respository.
3. There are no feed items involved in these uses, therefore, there is no concern with secondary residues in meat, milk, poultry and eggs.

Recommendations

TOX considerations permitting, we have no objection to the issuance of this section 18 exemption. An agreement is needed with FDA concerning the legal status of the treated commodities in commerce.

cc: Sethoxydim (Poast®) SF  
Sec.18 SF  
RF  
Circu.  
Reiter  
Reiter's RF  
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TOX

RDI:E.Z.:5/23/85:R.D.S.:5/23/85

TS-769C:RCB:Reviewers:A.J.Reiter and W.L.Anthony:  
ajr & kendrick:557-3043:CM#2:Rm.708:5/29/85