

US EPA ARCHIVE DOCUMENT



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

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

FEB 20 1991

MEMORANDUM

**SUBJECT:** 91-MI-02. Section 18 Exemption for the use of Pendimethalin Herbicide (Prowl® 4E) on Onions to Control Weeds. EPA Reg. No. 241-243. (No MRID #, DEB # 7614).

**From:** Freshteh Toghrol Ph.D., Chemist *F. Toghrol*  
Special Review Section II  
Chemistry Branch II Registration Support  
Health Effect Division (H7509C)

**THRU:** Francis B. Suhre, Section Head *Francis B. Suhre*  
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**To:** R. Cool/Jim Tompkins, PM 41  
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and  
Toxicology Branch  
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The Michigan Department of Agriculture requests a Section 18 exemption for the use of pendimethalin ( trade name: Prowl) on onion for weed control. Michigan submitted a similar Section 18 request in 1989 (89-MI-01, memo of F. Toghrol, 5/9/89, DEB#5288).

Prowl® 4E pre-emergence Herbicide (EPA Reg. No. 241-243) is a registered pesticide of American Cyanamid Corporation; the product contains 4 lbs/gallon pendimethalin, [N-(1-ethyl-propyl)-3,4-dimethyl-2,6-dinitrobenzenamine] as its active ingredient.

A maximum of 7,900 acres of bulb onions will be treated with 48,000 lbs of active ingredient. This Section 18 label is

effective from April 15 to August 1, 1991.

Tolerances are established (40 CFR 180.361(a)) for combined residues of pendimethalin and its metabolite 4-[(1-ethyl-propyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol in or on several raw agricultural commodities (RAC), as follows: beans (lima, forage, and hay) at 0.1 ppm; corn (grains, fresh, fodder, and forage) at 0.1 ppm; cottonseed, peanuts (nut meats, forage, and hay) at 0.1 ppm; rice grain at 0.05 ppm; soybeans (beans, hay, and forage), and sunflower seeds at 0.1 ppm.

Tolerances are also established (40 CFR 180.361(b)) for combined residues of pendimethalin and its metabolites 4-[(1-ethyl-propyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol and 3-[1-ethyl-propyl)amino]-6-methyl-2,4-dinitrobenzyl alcohol in or on peanut hulls at 0.25 ppm.

No plant or animal metabolism studies were submitted with this request. According to the Pendimethalin Registration Standard, issued on 5/10/84, there are Residue Chemistry data gaps, including plant and animal metabolism.

However, for the purpose of this Section 18 request only, we will consider the residue of concern in plants and animals to be pendimethalin and its metabolite 4-[(1-ethyl-propyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol.

91-MI-02 calls for 2 to 3 (ground) applications of Prowl 4E at 2 to 4 pts/A (1.0- 2.0 lb ai/acre) in a minimum of 10-30 gallons of water. Do not apply more than 4.0 lb ai/A/season. The first application is made when onions are seeded or transplanted, 1 or 2 additional applications after onions are well established, but before weeds emerge. A PHI of 40 days is proposed. This represents an increase in the number of applications over the previous Section 18 request.

Adequate analytical methods are available for enforcement purposes. See PAM Vol. II Section 180.361.

A summary of field residue data for pendimethalin in or on onions grown in the states of CA, NY, WA, and MI during the 1989 growing season were submitted with this Section 18. The available data reflect one to two applications of Prowl 4E at the rate of 1.5 to 4.0 lbs ai/A/application with PHIs ranging from 45 to 70 days. No residues of pendimethalin or its dinitrobenzyl alcohol metabolite were detected (<0.035 ppm, limit of detection) in fresh or dehydrated onions.

These data are in agreement with the residue data that were previously submitted in connection with PP#3G2857. The data provided in the temporary tolerance petition reflect 2 -3 applications at 1 to 2 lbs ai and PHI's of 106-189 days. No

residues of pendimethalin or its dinitrobenzyl alcohol metabolite were detected (<0.05 ppm). A temporary tolerance of 0.1 ppm for onions was previously established, based on postemergent ground application of 1 lb ai/A with a 100 days PHI(PP#3G2857).

Based on these data, we do not expect that residues of pendimethalin/metabolite will exceed 0.1 ppm, provided a 45 day PHI is imposed and no more than two applications are used.

Meat, Milk, Poultry and Eggs:

There are no feed items involved in this proposed use, therefore no secondary residues are expected to occur in meat, milk, poultry, and eggs as a result of this Section 18 request.

Conclusions:

1. For the propose of this section 18 only, we consider the residues of concern to be pendimethalin and its metabolites 3,5-dinitrobenzyl alcohol.
2. The analytical method described in PAM II, Section 180.361, is adequate for enforcement purposes. Analytical reference standards of pendimethalin and its metabolite are available from the EPA Repository, at RTP, NC.
3. Data are not available to estimate pendimethalin residues in or on onions 40 days after application. However, the available data do indicate that residues of pendimethalin/metabolite in or on onions will not exceed 0.1 ppm provided a 45 days PHI is imposed and no more than two applications are used.
4. No secondary residues of pendimethalin and its metabolite should appear in meat, milk, poultry and eggs since no feed items are involved with this use.

Recommendations:

TOX considerations permitting, provided no more than two applications are used and a PHI of 45 days is imposed, CBRS has no objections to this section 18. An agreement should be made with the FDA regarding the legal status of the treated onions in commerce.

cc: Pendimethalin S.F., R.F., Section 18 S.F., Circ., F. Toghrol,  
PMSD/ISB, DRES (J. Kariya).  
RDI: S.H (2/15/91): E. Zager: Acting Chief (2/19/91):  
H7509C:CBIIRS:F.Toghrol:F.T.:RM:802:CM#2:703-557-7887:2/20/91.