

US EPA ARCHIVE DOCUMENT

108501
SHAUGHNESSEY NO.

32
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 9/21/81 OUT 11/2/81

FILE OR REG. NO. 241-243

PETITION OR EXP. PERMIT NO. 1F2567

DATE OF SUBMISSION 9/2/81

DATE RECEIVED BY HED 9/18/81

RD REQUESTED COMPLETION DATE 11/22/81

EEB ESTIMATED COMPLETION DATE _____

RD ACTION CODE/TYPE OF REVIEW 335 /Amendment -- Food Use

TYPE PRODUCT(S): I, D, (H), F, N, R, S Herbicide

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Prowl

COMPANY NAME American Cyanamid Company

SUBMISSION PURPOSE Proposed Conditional Registration of Dry, Lima,

Snap Beans

SHAUGHNESSEY NO. CHEMICAL, & FORMULATION Z A.I.

108501

Pendimethalin

42.3

Pesticide Name Prowl

100 Pesticide Label Information

100.1 Pesticide Use

Prowl is currently registered for use on field corn, cotton and soybeans as a post-emergence herbicide. The proposed registration would add the use of Prowl preplant incorporated on dry, lima and snap beans and the use of tank mixtures of Prowl plus Eptam preplant incorporated on dry beans.

100.2 Formulation Information

Pendimethalin -- 42.3% EC formulation, 4 lbs. of pendimethalin/gallon.

100.3 Application Methods, Directions, Rates

See Appendix.

100.5 Precautionary Labeling

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not apply when weather conditions favor drift from target area. Do not contaminate water by cleaning equipment or disposal of wastes.

101 Physical and Chemical Properties

See the EEB Review by L. Touart (5/13/80).

102 Behavior in the Environment

See the EEB review by W. Rabert (10/23/79).

103 Toxicological Properties

See the EEB Review by W. Rabert (10/23/79).

104 Hazard Assessment

104.1 Discussion

Dry, lima and snap beans are grown throughout the U.S. with the total area planted amounting to over 1.5 million acres. Prowl is applied as a preplant, incorporated herbicide. Maximum application rate is 1.5 lbs. A.I./acre alone or in combination with Eptam.

104.2 Likelihood of Adverse Effects to Non-Target Organisms

The active ingredient in Prowl, pendimethalin, is slightly toxic to terrestrial vertebrates. Applications of Prowl to beans are not expected to approach toxic levels in these animals' feedstuff when label directions are followed and applications are fully incorporated.

Pendimethalin is highly toxic to aquatic organisms. A chronic freshwater fish study indicates that reproductive effects from exposure to pendimethalin may occur at concentrations of at least 10 ppb. Also, pendimethalin is concentrated to 2200x in fathead minnows, suggesting a bioaccumulation problem. Considering the persistence (1/2-life \geq 90 days) and the likelihood of movement (runoff \sim 0.76% of applied, based on trifluralin as a benchmark), a potentially serious aquatic hazard is indicated. Additional information is necessary to fully evaluate this potential hazard. Full-scale field testing and monitoring are required to provide this information.

With Prowl currently registered for use on field corn, cotton and soybeans, little increment is added by dry, lima and snap beans. However, all uses of Prowl provide for potentially serious aquatic hazards.

104.3 Endangered Species Considerations

Prowl is not expected to pose any hazard to terrestrial endangered species when used according to label directions. No aquatic endangered species have been identified which would be exposed and therefore adversely impacted by the use of Prowl on dry, lima and snap beans.

107 Conclusions

The Ecological Effects Branch has completed an incremental risk assessment (3)(c)(7) finding) of the proposed conditional registration of Prowl for use on dry, lima and snap beans. Based upon the available data EEB concludes that the proposed uses provide for a minimal increase in exposure, but there are significant chronic risks to nontarget organisms.

107.5 Data Requests

The following studies are required by the Ecological Effects Branch to improve its Environmental Hazard Assessment:

- 1) An aquatic invertebrate life-cycle toxicity study,
- 2) A field monitoring study.

Any questions concerning the above requests or for appropriate protocols should be directed to the Ecological Effects Branch.

Leslie Touart 11-2-81
Leslie Touart, Fisheries Biologist, Section 4

Henry T. Craven 11-2-81
Henry T. Craven, Head, Section 4

Clayton Bushong, Chief, Ecological Effects Branch

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Pendimethalin ecological effects review

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The material not included contains the following type of information:

- Identity of product inert ingredients
 - Identity of product impurities
 - Description of the product manufacturing process
 - Description of product quality control procedures
 - Identity of the source of product ingredients
 - Sales or other commercial/financial information
 - A draft product label
 - The product confidential statement of formula
 - Information about a pending registration action
 - FIFRA registration data
 - The document is a duplicate of page(s) _____
 - The document is not responsive to the request
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The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.
