

US EPA ARCHIVE DOCUMENT

Shaughnessy No.: 109702

Date Out of EFGWB: 4/10/90

TO: George LaRocca  
Product Manager # 15  
Registration Division (H7505C)

FROM: Emil Regelman, Supervisory Chemist  
Environmental Chemistry Review #2  
Environmental Fate and Groundwater Branch/EFED (H7507C)

THRU: Hank Jacoby, Chief  
Environmental Fate and Groundwater Branch  
Environmental Fate and Effects Division (H7507C)

Attached, please find the EFGWB review of:

Reg./File #(s): 10182-105

Common Name: Cypermethrin

Chemical Name: (+)  $\alpha$ -cyano-(3-phenoxyphenyl)methyl(+)-cis,trans-  
3-(2,2-dichloroethenyl)-2,2,-  
dimethylcyclopropanecarboxylate

Type of Product: Insecticide

Product Name: DEMON EC Insecticide

Company Name: ICI Americas Incorporated

Purpose: Amendment to add use for treatment of  
preconstruction lumber and logs.

Date Received: 8/9/89

Action Code: 325

EFGWB #(s): 89-0717

Total Reviewing Time: 2

Deferrals to: Ecological Effects Branch/EFED  
Science Integration & Policy/EFED  
Non-Dietary Exposure Branch/HED  
Dietary Exposure Branch/HED  
Toxicology Branch I/HED  
Toxicology Branch II/HED

1. CHEMICAL:

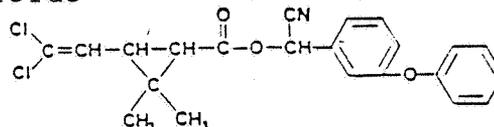
Common Name: Cypermethrin

Chemical Name: (+)  $\alpha$ -cyano-(3-phenoxyphenyl)methyl(+)-cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

Type of Product: Insecticide

Trade Name: DEMON EC Insecticide

Chemical Structure:



Physical/Chemical Properties

molecular formula:  $C_{22}H_{19}Cl_2NO_3$

molecular weight: 416.28

physical state: Pure isomers are colorless crystals (mixed isomers are viscous semisolids)

aqueous solubility: 0.2 ppm @ 20 C

2. TEST MATERIAL: N/A

3. STUDY/ACTION TYPE: Label amendment for use on preconstruction lumber and logs.

4. STUDY IDENTIFICATION: N/A

5. REVIEWED BY:

Bruce Kitchens, Chemist

Environmental Chemistry Review Section #2

Environmental Fate and Groundwater Branch/EFED

*Bruce Kitchens*

Date: 1/4/90

6. APPROVED BY:

Emil Regelman, Supervisory Chemist

Environmental Chemistry Review Section #2

Environmental Fate and Groundwater Branch/EFED

*Emil Regelman*  
Date: 1/10/90

7. CONCLUSIONS: (1) Based on a review of environmental fate data and the current registration for cypermethrin the request for an amended label allowing the use of cypermethrin on preconstruction lumber and logs is concurred with by EFGWB/EFED.

(2) A review of 40 CFR 158.290 environmental fate data requirements and appendix A use pattern index shows that all data requirements have been fulfilled for the current registered uses

of cypermethrin. (3) The possibility exists for the use of cypermethrin treated preconstruction lumber and logs in the building of docks and piers in sport fishing waters and the sediments where fish may feed. As a result of this use fish may be exposed to cypermethrin in unknown concentrations.

Bioconcentration seems likely to occur since cypermethrin has a demonstrated bioconcentration factor of 1200x in rainbow trout as reported in the conditional registration of cypermethrin issued in April 1982. Cypermethrin is also highly toxic to fish.

8. RECOMMENDATIONS: The Agency concurs with the registrant's request for label amendment allowing cypermethrin use on preconstruction lumber and logs.

9. BACKGROUND: Cypermethrin is currently registered for use as an insecticide on cotton, pecans, lettuce, and cabbage. Application rates vary from a maximum of 1.875 lbs./acre/season for cotton, 2.5 lbs./gal. E.C. for cabbage and lettuce, and 0.06 - 0.1 lbs./acre for pecans.

The proposed label amendment for use as a treatment of preconstruction lumber and logs states cypermethrin will be used to provide protection from wood destroying insects, such as termites, carpenter ants, and beetles (Ambrosia, Powder-post, Old House Borers and others). The application rate for the treatment of preconstruction lumber and logs is 0.5 - 1.0% solution and may be applied by brushing, dipping, spraying, and pressure treatment.

The status of the environmental data requirements are as follows:  
Satisfied:

- 161-1 Hydrolysis
- 161-2 Aqueous Photolysis
- 161-3 Photolysis in Soil
- 162-1 Aerobic Soil Metabolism
- 162-2 Anaerobic Soil Metabolism
- 162-3 Aerobic Aquatic Metabolism
- 162-4 Anaerobic Aquatic Metabolism
- 163-1 Leaching & Adsorption/Desorption
- 165-2 Rotational Crop (confined)
- 165-4 Fish Accumulation

10. DISCUSSION: The Agency concurs with the registrant's request for the amended label allowing use of cypermethrin for the

treatment of preconstruction lumber and logs. All data requirements for the registered uses of cypermethrin have been satisfied.

11. COMPLETION OF ONE-LINER:

12. CBI INDEX:

Not applicable.