

US EPA ARCHIVE DOCUMENT

MAY 8 1980

FILE COPY

To: Product Manager Gee (17)  
TS-767

Through: Dr. Gunter Zweig, Chief  
Environmental Fate Branch

From: Review Section No. 1  
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 10182-EUP-19

Chemical: Cypermethrin: (+)a-cyano-(3-phenoxyphenyl)methyl (+)-  
cis,trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclo-  
propanecarboxylate

Type Product: Insecticide

Product Name: Cymbush® Insecticide

Company Name: ICI Americas, Inc.

Submission Purpose: Experimental use on new chemical on cotton.  
However, the PM requests a total assessment  
under Section 3(c)(5).

EFB # 416 Action Code 275

ZBB Code: Section 5

Date in: 04/01/80

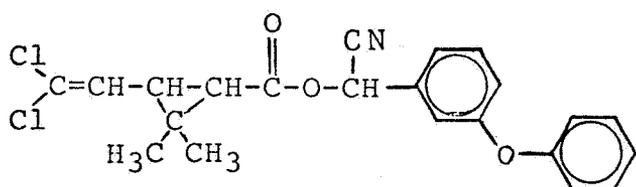
Date Due: 06/22/80

Date Completed: MAY 7 1980

Deferrals To:

- Ecological Effects Branch
- Residue Chemistry Branch
- Toxicology Branch

- 1.0 Introduction
- 1.1 New chemical
- 1.2 Trade Name: "CYMBUSH" Pyrethroid Insecticide
- 1.3 Common chemical name: cypermethrin
- 1.4 Code numbers: PP383, NRDC 149, WL 43467
- 1.5 Systematic chemical name: (+) L-cyano-(phenoxyphenyl)  
(+)- cis, trans-3-(2,2-dichloroethenyl-2,2-dimethylcy-  
clopropanecarboxylate
- 1.6 Molecular weight 416
- 1.7 Molecular formula C22 H19 O3 NC12
- 1.8 Structural Formula



Isomer ratio: 45 + 10% Cis  
55 + 10% Trans

- 1.9 Submission purposes: Experimental use on cotton. The quantity of active ingredient required to meet the objectives of the proposed program is 900 pounds. Testing will be conducted on 450 acres. The program will last one year.

The optimal fomulation has not yet been determined. One of the major purposes of the initial experimental use permit is provide information so that the best formulation may be chosen. Three emulsifiable concentrates formulations will be tested: one 2 lbs./gal. (22.86%ai) and two different 3 lbs/gal formulations (35.6%ai).

- 1.95 Physical and chemical properties of formulated material.

Formulation	GFU 034B	GFU 061	JF6670
lbs/gal ai	3	3	2
Spec gravity	1.00	1.01	1.05
Weight per gallon	8.35	8.43	8.76
Boiling pt °C	157	160	
Flash pt, Seta Flash °F	93	110	118

- 2.0 Directions for use:

- 2.1 The directions for use are the same for the 2 and 3 lbs ai/gal formulations.

- 2.2 The dosage per acre is 0.01 to 0.125 lbs .ai/acre. The minimum spray volume is 1.5 gal/A aerial or 9 gal/A ground. The spray interval is 5 to 7 days or as indicated by scouting.

For use on cotton grown for seed purposes only. No part of treated crop may be used for food, feed or oil purposes.

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3.0 Discussion data

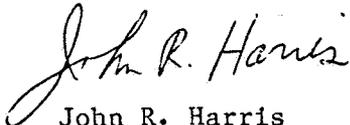
3.1 No Environmental Chemistry data submitted. The company (ICI Americas Inc.) states in the cover letter that Environmental Chemistry data will be supplied before any extension or expansion of the experimental use permit is requested.

5.0 Recommendations:

5.1 We do not recommend issuance of this EUP until the following studies are submitted: 1) Hydrolysis, 2) Aerobic soil metabolism, and 3) Rotational crop. Without rotational crop studies, an 18 month crop rotation restriction must be imposed.

5.2 At the time of registration the following studies for a Field-vegetable crop will need to be submitted: 1) Hydrolysis, 2) Photodegradation. 3) Aerobic Soil Metabolism, 4) Anaerobic Soil Metabolism. 5) Effects of Microbes on Pesticide, 6) Effects of pesticides on microbes, 7) Leaching, 8) Adsorption, 9) Soil Field Dissipation, 10) Rotational crop and 11) Fish Accumulation.

Note to PM: The statement under directions for use - Do not exceed 15 application per acre - should be clarified.



John R. Harris  
Environmental Fate Branch  
Hazard Evaluation Division