US EPA ARCHIVE DOCUMENT

Shaughnessy No.: 109702
Date Out of EAB: APR 22 1988

To: George La Rocca
Product Manager No. 15
Registration Division (TS-767C)

From: Emil Regelman, Supervisory Chemist
Environmental Chemistry Review Section #3
Exposure Assessment Branch/HED (TS-769C)

Through: Paul F. Schuda, Chief
Exposure Assessment Branch/HED (TS-769C)

Attached, please find the EAB review of . . .

Reg./File # : 10182-64, -65, -68, -80

Chemical Name : Cypermethrin

Type Product : Insecticide

Product Name : CYMBUSH

Company Name : ICI Americas Inc.

Purpose : Evaluation of protocol

Date Received: 2-3-88 Action Code: 352

Date Completed: 4-18-88 EAB # (s): 80361-4 0

Monitoring Study Requested: _____ Total Reviewing time: 1 day

Monitoring Study Volunteered: _____

Deferrals to: __X__ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

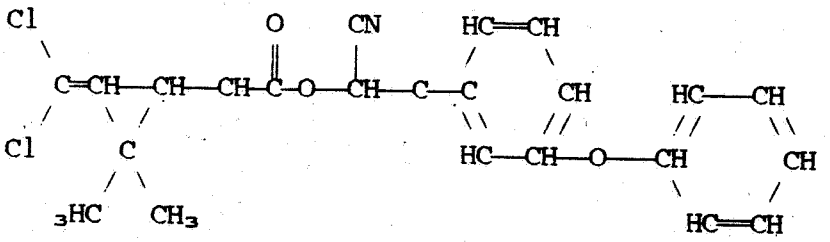
1. CHEMICAL:

Common name: Cypermethrin

Chemical name: (±)-α-Cyano-3-phenoxybenzyl-(±)-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate

Trade name(s): Cymbush 2E, Cymbush 3E, Cymbush OL

Structure:



Formulations: 2 and 3 lb/gallon EC

Physical/Chemical properties of the pure enantiomeric pair:

Molecular formula:	$C_{22}H_{19}Cl_2NO_3$.
Molecular weight:	416.3.
Physical state:	Pure isomers are colorless crystals (mixed isomers are viscous semisolids).
Specific density:	1.12 g/cm^3.
Vapor pressure:	170 nPa at 20°C.
Solubility (25°C):	0.005-0.01 mg/L in water; 620 g/L in acetone; 515 g/L in cyclohexanone; 7 g/kg in hexane; 315 g/L in xylene.

2. TEST MATERIAL: Cypermethrin, formulation not specified.

3. STUDY/ACTION TYPE: Evaluation of protocol.

4. STUDY IDENTIFICATION:

Hill, I.R. 1987. A study of the aquatic ecosystem of a farm pond in the year following cypermethrin application on a cotton crop surrounding the pond. Study No.: 383/CF/05. Reference No.: IRH 038. Submitted by ICI Americas Inc., Wilmington, DE.

5. REVIEWED BY:

A. Reiter
Chemist
EAB/HED/OPP
Review Section #3

Signature: Allan J. Reiter

Date: 4-18-88

6. APPROVED BY:

Emil Regelman
Supervisory Chemist
EAB/HED/OPP
Review Section #3

Signature: Emil Regelman

Date: APR 22 1988

7. CONCLUSION:

The protocol for the study in question is not appropriate for any data requirements in Subdivision N of the current guidelines. The protocol is for the third year--1988--of a three-year-long study in which a cotton field adjacent to a farm pond was treated with cypermethrin at the "maximum application rate" ten times in 1987. The registrant proposes to analyze samples of the pond water, pond sediment, and fish once in 1988 for residues of cypermethrin. The majority of information provided in the protocol (phytoplankton, filamentous algae and macrophytes, zooplankton, and macroinvertebrates) is more pertinent to the Ecological Effects Branch. Unless the 1988 sample was a continuation of the 1987 sampling, which cannot be determined since the 1987 protocol was not available to review, the single sample is of little use in determining either the aquatic field dissipation of cypermethrin or the potential for cypermethrin to accumulate in aquatic nontarget organisms.

8. RECOMMENDATIONS:

EAB defers the review of this protocol on aquatic ecological impact to EEB.

9. BACKGROUND:

This protocol was submitted in response to Sec. 3(C)(7)(c) notices dated 6/12/84 and 1/14/85.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: n/a

11. COMPLETION OF ONE-LINER: n/a

12. CBI APPENDIX:

All data reviewed here are considered "company confidential" by the registrant and must be treated as such.