109701

(20)

EEE BRANCH REVIEW

DATE: IN 2/11/78 OUT 2/25/78 IN _____ OUT _____ IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 10182-000RI

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED _____

DATE OF SUBMISSION _____

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCTS(S): I, D, H, F, N, R, S Insecticide

DATA ACCESSION NO(S). _____

PRODUCT MGR. NO. Mitchell (17)

PRODUCT NAME(S) Permethrin Technical

COMPANY NAME ICI

SUBMISSION PURPOSE Registration of Technical

CHEMICAL & FORMULATION Permethrin

Active: (3-phenoxyphenyl) methyl (±) - cis trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxyalte 91.0%

Inerts 9.0%

100.0%

1

Registration: Permethrin Technical

100.0 Pesticidal Use

For the formulation of insecticides only.

100.1 Application Methods/Directions

Not Applicable

101.0 Chemical and Physical Properties

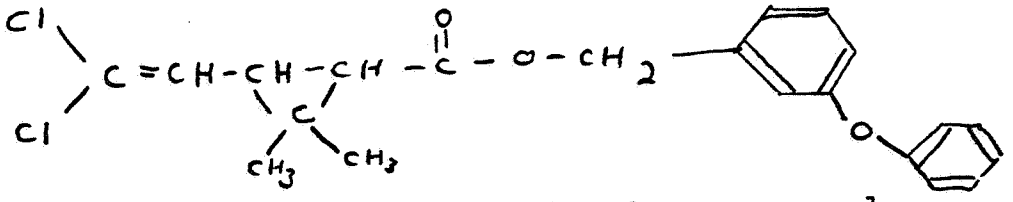
101.1 Chemical Name

(3-Phenoxyphenyl)methyl (±)-(1S, trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

101.2 Common Name

Permethrin: PP557

101.3 Structural Formula



Note: Cis and trans forms of the above are used (approximately 35% Cis form)

101.4 Molecular Weight: $C_{21}H_{20}Cl_2O_3$

391.28

101.5 Physical State

Liquid, colorless, odorless

101.6 Solubility

<0.1 ppm in water, misible with or soluble in most organic solvents.

102.0 Behavior in the Environment

NA for registration of technical material for formulation use only.

103.0 Toxicological Properties

103.1 Acute Toxicity

103.1.1 Mammalian

See Review by Thomas O'Brien, 2/14/77

103.1.2 Bird Acute Toxicity LD_{50}

Mallard	10,327 mg/kg	females	EA[1]
	9.868 mg/kg	males	EA
Pheasant	13,740 mg/kg	males	EA
	15,545 mg/kg	females	EA
Starling	42,706 mg/kg		EA
Japanese Quail	15,500 mg/kg		EA

103.1.3 Fish Acute Toxicity LC_{50} 96-hr.

Channel Catfish	5.4	ppb	EA
Coho Salmon	17.0	ppb	EA
Atlantic Salmon	1.5	ppb	EA
Fathead Minnow	3.0	ppb	EA

103.1.4 Aquatic Invertebrate Toxicity LC_{50} (48-hr)

Daphnia Magna	1.8	ppb	(48hr)	EA_2
Daphnia Magna	0.8	ppb	(48 hr)	FP[2]
Brown Shrimp	0.38	ppb	(48 hr)	EA
Fiddler Crab	2.2	ppb	(96 hr)	EA

103.2 Subacute

Ring-necked Pheasant	23,000 ppm	EA
Mallard Duck	23,000 ppm	EA
Japanese Quail	23,000 ppm	EA

103.4 Field Toxicity

See attached test (ID # ES-BB)

Footnotes

[1] EA = Technical material (each active)

[2] EA = Formulated product

104.0 Hazard Assessment

104.1 Discussion

104.1.1 Likelihood of Exposure to Non-traget Organisms

N.A. - Industrial use only

104.1.2 Endangered Species Considerations

N.A.

104.1.3 Adequacy of Toxicity Data

The registrant has submitted the required basic studies. These data are adequate support for registration of the technical product.

105.0 Classification

Manufacturing Use

107.0 Conclusions

107.4 Data Adequacy

The six basic studies required to support registration have been reviewed and have been determined acceptable by the Environemntal Safety Section.

107.7 Recommendations

The registrant has fulfilled all environmental safety section data requirements for registration of Permethrin Technical for formulating use only.

Richard Balcomb

Richard Balcomb
February 25, 1978
Environmental Safety Section
EEEB-RD WH567