

US EPA ARCHIVE DOCUMENT

DP Barcode : D186505
PC Code No : 109701
EEB Out : AUG 5 1993

To: Jay Ellenberger
Product Manager 50
Special Review and Reregistration Division (H7508W)

From: Anthony F. Maciorowski, Chief
Ecological Effects Branch/EFED (H7507C)

Attached, please find the EEB review of...

Reg./File # : 109701
Chemical Name : Permethrin, mixed cis,trans
Type Product : Insecticide
Product Name : Permethrin products
Company Name : ICI Americas Inc.
Purpose : Submission of data for reregistration in support of 72-3(d).

Action Code : 627 Date Due : 04/11/93
Reviewer : C. Laird Date In : 01/13/93

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)			72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)	426082-01	2 N	123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)			124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur
P=Partial (Study partially fulfilled Guideline but additional information is needed)
S=Supplemental (Study provided useful information but Guideline was not satisfied)
N=Unacceptable (Study was rejected)/Nonconcur

DP BARCODE: D186505

REREG CASE # 2510

CASE: 819432
SUBMISSION: S433257

DATA PACKAGE RECORD
BEAN SHEET

DATE: 01/11/93
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REREGISTRATION ACTION: 627 GENERIC DATA SUBMISSION
CHEMICALS: 109701 Permethrin, mixed cis,trans (ANSI) 100.00 \$

ID#: 109701

COMPANY:

PRODUCT MANAGER: 50 JAY ELLENBERGER 703-308-8085 ROOM: CS1 4J1

PM TEAM REVIEWER: LINDA DELUISE 703-308-8065 ROOM: CS1 4N6

RECEIVED DATE: 12/30/92 DUE OUT DATE: 03/30/93

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 186505 EXPEDITE: N DATE SENT: 01/11/93 DATE RET.: / /

CHEMICAL: 109701 Permethrin, mixed cis,trans (ANSI)

DP TYPE: 999 Miscellaneous Data Package

ADMIN DUE DATE: 04/11/93 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	01/12/93	/ /
BRAN: EEB	01/13/93	/ /
SECT:	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

* * * DATA REVIEW INSTRUCTIONS * * *

PLEASE REVIEW MRID 42608201 FOR 72-3(D)

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
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100.0 Pesticide Name: Permethrin

100.3 Submission Purpose:

Submission of a sheepshead minnow study

101.0 Chemical and Physical Properties:

101.1 Common Name: Permethrin 10% EC Formulation

103.0 Toxicological Properties:

96-hour LC₅₀ for sheepshead minnow

105.0 Conclusions:

This study indicates permethrin has an LC₅₀ > 300 ppb to sheepshead minnow. This study does not fulfill the guideline requirements for an estuarine/marine fish study for a 10% formulated product.

Curtis E. Laird 8-4-93

Curtis E. Laird, Fishery Biologist
Ecological Effects Branch
Environmental Fate and Effects Division (H7505C)

Norman J. Cook 08-04-93

Norman J. Cook, Head-Section 2
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

Anthony F. Maciorowski 8.05-93

Anthony F. Maciorowski, Chief
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

DATA EVALUATION RECORD

1. Chemical: Permethrin
2. Test Material: 10% EC formulation
3. Test Type: 96-Hour LC₅₀
Test Species: Sheepshead Minnow (Cyprinodon variegatus)

4. Study Identification:

Shanky, S.A., Morris, D.S., Caunter, J.E., and Stanley, R.D. (1992) Acute Toxicity to Sheepshead Minnow (Cyprinodon variegatus) of 10% EC Formulation; prepared by Imperial Chemical Industries, PLC for ICI Americas, Inc. Agricultural Products, Wilmington, DE 19897; MRID # 426082-01.

5. Reviewed By:

Curtis E. Laird
Fishery Biologist
EEB/EFED

Signature: Curtis E. Laird
Date: 8-4-93

6. Approved By:

Norman J. Cook
Supervisory Biologist
EEB/EFED

Signature: Norman J. Cook
Date: 08.04.93

7. Conclusions:

This study indicates permethrin has an LC₅₀ > 300 ppb to sheepshead minnow based on mean measured concentration. There was no mortality in the highest dosage level tested (300 ppb). The LC₅₀ value and the toxicity category for the sheepshead minnow is unknown. This study is considered supplemental with an LC₅₀ >300 ug/l. Another is required.

8. Recommendations:

The registrant should conduct another study and establish the LC₅₀ value for the sheepshead minnow.

9. Background:

This study was submitted in support of permethrin reregistration.

10. Discussion of Individual Test: N/A

11. Material Tested:

A. Test Animals:

Test animals were 0.6 g sheepshead minnow from Fish Husbandry Unit, ICI Environmental Laboratory; standard length was 27 mm.

B. Test Design:

Fish were tested in 54 liters glass vessel with 45 liters of test solution; temperature was $22 \pm 1^\circ\text{C}$; photoperiod was 16 light and 8 hour darkness with a 10 minute transition period at 06:00 and 21:50 hours; salinity ranged from 35 to 35.2 o/oo; turnovers per day equal to 2.67; pH ranged from 8.05 to 8.13; D.O ranged from 6.2 to 6.6 mg/L.

C. Dose:

Twenty fish per dose level; 7 dosage levels plus negative control (0, 1.0, 16, 28, 51, 100, 190 and 300 ppb based on mean measured concentrations).

D. Statistical Analysis:

No statistics were performed due to lack of mortality in any dosage level.

12. Reported Results:

The study author found the 96-hour LC_{50} to be > 300 ppb based on mean measured concentrations.

13. Study Author's Conclusions/OA measures:

The registrant stated that "this study was conducted in compliance with the principles of Good Laboratory Practice (GLP) laid down in the United Kingdom Department of Health Compliance Programme (1989). These principles are themselves in accordance with the Organisation for Economic Cooperation and Development (OECD) principles of Good Laboratory ISBN 9264 12367 9. Under memorandum of Understanding, signed by both the United States and the United Kingdom, this study is considered to satisfy the requirements of 40 CFR Part 160."

14. Reviewer's Discussion and Interpretation of The Study:

A. Test Procedure:

This study general followed the recommended EPA protocol of October 1982, except the LC_{50} value was not established due to low test levels.

B. Statistical Analysis:

No statistics were performed due to lack of mortality in any dose level tested.

C. Discussion/Result:

This study indicates permethrin has an $LC_{50} > 300$ ppb to sheepshead minnow.

D. Adequacy of Study:

1. Category: Supplemental
2. Rationale: See section 7 above
3. Repairability: No

15. Completion of One-Liner: Yes

16. CBI Appendix: N/A

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