88011
MRID No.

112701
Shaughnessy No.

Data Evaluation Record

BRODIFACOUM

Acute toxicity for freshwater fish (TG)

GUIDELINE NUMBER: 72-1 (a)

CITATION: Hill, R.W. 1976. Brodifacoum: Determination of the acute toxicity to Bluegill sunfish *Lepomis macrochirus*. Submitted by ICI Americas, Inc., Agricultural Products, Wilmington, Delaware 19897. Report No. BL/B/1771. Study No. F606/C.

REASON FOR SUBMISSION:

FIFRA '88 Reregistration.

RESULTS-	Valid _____	Invalid _____	Supplemental X
GUIDELINE-	Satisfied _____	Partially Satisfied _____	Not Satisfied X

DISCUSSION:

There was no additional observation period because of the delayed reaction of animals to an anticoagulant.

In 1978 the study was classified "Supplemental, repairable to Valid" if the LC_{50}s were recalculated on the basis of existing measured concentrations and the % ai of the test chemical was given. The 1990 summary does both of these things, but an additional deficiency has been noticed. The report does not keep track of the control group mortality. The summary glosses over the problem with a table, but without data.

The study can be raised to "Core" by supplying the mortality data, including the control data.

CONCLUSIONS: Supplemental LC_{50} = 0.12 mg/kg (CI 0.1 - 0.15), NOEL <0.02 mg/kg

REVIEWED BY:

James J. Goodyear
Biologist, Section 1
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

Signature: James J. Goodyear
Date: Jan 9, 1991

APPROVED BY:

Leslie W. Touart
Acting Head, Section 1
Ecological Effects Branch
Environmental Fate and Effects Division (H7507C)

Signature: L W T
Date: 1-9-91

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		IA	IB	T	EN	FC	P

Technical? PP581

Validator: R. Balcomb

Date: 3/21/78

Test Type:
Fish Acute 96 hr. LC_{50}
Bluegill Sunfish

Test ID.# ES-Fl

CITATION:

CITATION: Determination of the Acute Toxicity of PP581 to Bluegill (Lepomis Macrochirus). Report No. BL/B/1771- December 1976. ICI-Brixham Laboratory. Authors: R.W. Hill et al.

VALIDATION CATEGORY: Supplemental

RESULTS: The acute toxicity of PP581 was determined for Bluegills at 23°C. The pesticide was dissolved in DMSO and a flow-thru system was used. Ten fish were used per concentration level.

The following toxicity levels were measured:

24-hr	LC_{50}=0.39 mg/L
48-hr	LC_{50}=0.225 mg/L
96-hr	LC_{50}=0.165 mg/L

At a concentration of 0.033 mg/L the fish exhibited no toxic symptoms and this was regarded as a no effect level.

The fish ranged in weight 2.2 to 6.9 gm with mean of 3.87 gm.

Validation Category Rationale

This study was deemed supplementary for the following reasons:

1. Nominal concentrations were used in calculating LC_{50} values instead of available measured concentrations.

2. The purity of the test material is not described.

Repairability

The study may be repaired by recalculating the LC_{50}'s using the measured concentrations, the Litchfield-Wilcoxon method is suggested (Litchfield, J.T., Jr. and F. Wilcoxon, 1949. A simplified method of evaluating dose-effect experiments. J. Pharm. Exp. Ther. 96: 99-113). In addition, the purity of the test material must be described.

Additional Comments

Nominal Conc.	0.68	0.33	0.22	0.15	0.1	.068	.047	.033	.022
Measured	0.48	0.218	0.152	.101	.067	.046	.033	.020	.013
Survivors	0	0	0	0	10	10	10	10	10

The mean percentage of the measured concentrations relative to the nominal concentrations for all results was 66.4%.

The 96-hr. LC_{50} calculated by the reviewer via regression analysis (using measured conc.) was 0.089 mg/L.

ENVIRONMENTAL FATE AND EFFECTS DIVISION

ECOLOGICAL EFFECTS BRANCH

List B Phase 4 - Response on Existing Studies Reviewed

CHEMICAL AI NAME: Brodifacoum
CHEMICAL NO.: 112701

CASE NO.: 2755

REVIEWER'S NAME: James J. Goodyear
TELEPHONE NUMBER: 703-557-7726
DATE: January 4, 1991

USE PATTERN(S): In and around buildings.

GUIDELINE NO.: 72-1(a) Acute toxicity for freshwater fish.

TITLE: Brodifacoum: Determination of the acute toxicity to Bluegill sunfish *Lepomis macrochirus*. Submitted by ICI Americas, Inc., Agricultural Products, Wilmington, Delaware 19897. Report No. BL/B/1771. Study No. F606/C.

MRIDS AND DATES OF STUDIES REVIEWED: MRID 88011 (1976) in MRID 92195-08 (1991).

MRIDS AND DATES OF FULLY ACCEPTABLE STUDIES: None.

COMMENTS: Supplemental. LC_{50} = 0.12 mg/kg (CI 0.1 - 0.15 mg/kg), NOEL < 0.02 mg/kg

There was no additional observation period because of the delayed reaction of animals to an anticoagulant.

In 1978 the study was classified "Supplemental, repairable to Valid" if the LC_{50}s were recalculated on the basis of existing measured concentrations and the % ai of the test chemical was given. The 1990 summary does both of these things, but an additional deficiency has been noticed. The report does not keep track of the control group mortality. The summary glosses over the problem with a table, but without data.

The study can be raised to "Core" by supplying the mortality data, including the control data.

U.S. Environmental Protection Agency

Office of Pesticide Programs Information Network

Results

1 Items Found

MRID
1) 88011

Back to Query

Summary Information For *Study 88011*

MRID: 88011

Citation Reference: Hill, R.W.; Maddock, B.G.; Hart, B.; et al. (1976) Determination of the Acute Toxicity of PP581 to Bluegill Sunfish (?~Lepomis~ ? ~macrochirus~?): Report BL/B/1771. (Unpublished study received Jan 3, 1978 under 10182-EX-10; prepared by Imperial Chemical In- dustries, Ltd., submitted by ICI Americas, Inc., Wilmington, Del.; CDL:232750-F)

Author: Hill, R.W.
Maddock, B.G.
Hart, B.

Content Category: Complete primary report -- experimental research

Receipt Date: 03-Jan-1978

Laboratory Project #: BL/B/1771

Accession #: 232750 F

Products Tested:

Status: Acceptable (07-Jun-1991)

DP #:

Ingredients

PC Code	CAS #	Ingredient Name
112701	56073-10-0	Brodifacoum
Total Rows: 1		

Laboratory

Laboratory #	Laboratory Name
959804	Imperial Chemical Industries, Ltd./Zeneca
Total Rows: 1	