C80804

(1)

EEE BRANCH REVIEW

DATE: IN 9/16/77 OUT 2/4/78 IN _____ OUT _____ IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 100-544

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED _____

DATE OF SUBMISSION _____

DATE SUBMISSION ACCEPTED _____

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

DATA ACCESSION NO(S). 23184

PRODUCT MGR. NO. (25) Taylor

PRODUCT NAME(S) Prometon

COMPANY NAME Ciba-Geigy

SUBMISSION PURPOSE Data Submission

CHEMICAL & FORMULATION 2,4-Bis(isopropylamino)-6-methoxy-s-Triazine

100.0 Pesticidal Use

Prometon is a herbicide used to control weeds. The formulated product Pramitol 25E is a non selective herbicide that can be applied in water or oil before or after plant growth begins.

100.1 Application Methods

This request is for a review of data for this product. The Technical and its formulation are registered. At this time a discussion of Application Methods, Rates, etc., is not germaine.

101.0 Chemical and Physical Properties

101.1 Chemical Name

2,4-Bis (isopropylamino)-6-Methoxy-S-Triazine

101.0 Common Name

Prometone
Pramitol 25E

103.0 Toxicological Properties

103.1 Acute Toxicity

103.1.2 Bird

DATA REVIEW NUMBER: ES C1

TEST: Avian Acute Oral LD_{50}

SPECIES: Mallard Duck (Anas platyrhnchos)

RESULTS: LD_{50} = 3157 mg/kg (1605.3-6211.2 mg/kg) 95% C.L.
LD_{10} = 622.3 mg/kg (238.8-1621.5 mg/kg) 95% C.L.
LD_{90} = 16022.4 mg/kg (3127.1-82093.7 mg/kg) 95% C.L.

The symptoms of toxicity preceding death included depression, wing droop, loss of coordination, prostrate posture, loss of righting reflex, convulsions, salivation and shallow and rapid respiration. The first death occurred within 15 minutes of dosing at 4640 mg/kg.

CHEMICAL: Prometon Technical

TITLE: Acute Oral LD_{50} - Mallard Duck
Prometon Technical

ACCESSION NO. 23184

STUDY DATE: October 18, 1976

RESEARCHER: Robert Fink, Wildlife International

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: ~~Supplemental~~ Core

CATEGORY REPAIRABILITY: The age of birds in this study was 14 days and basic data requirements call for test birds to be young adults. However study is acceptable in light of C+E's decision on LD_{50}'s > 3000mg/kg

HTC

VALIDATOR: Tom O'Brien 2/3/78

3

Mallard Acute
Oral Prometon
Tech
Wildlife Int

215.
E.
1C.

464.
C.
1C.

100C.
E.
1C.

215C.
4.
1C.

464C.
E.
1C.

2.219	M
-2.747	YINT
2.823	LW M
0.9C1	CHI²
3097.816	LD50
1783.298	LOCL
5381.3C0	UPCL
819.1C1	LD10
411.3E0	LOCL
1630.918	UPCL
11715.840	LD90
3659.3E9	LOCL
37509.240	UPCL

Mallard Acute
Oral Prometon
Tech
Wildlife Int.

464.
C.
1C.

100C.
E.
1C.

215C.
4.
1C.

464C.
E.
1C.

2.141	M
-2.4E1	YINT
2.9E1	LW M
0.779	CHI²
3118.5C1	LD50
1754.3E1	LOCL
5543.3E7	UPCL
785.6C7	LD10
358.7E1	LOCL
1720.2C9	UPCL
12379.023	LD90
3385.5E1	LOCL
45263.398	UPCL

103.1.3 Fish

DATA REVIEW NUMBER: ESG1

TEST: Fish Acute 96 Hour LC_{50} (Cold Water)

SPECIES: Rainbow Trout (Salmo gardneri)

RESULTS: 48 hr LC_{50} > 18 ppm
96 hr LC_{50} = 20 ppm (10.4-38.4) 95% C.L.

The fish exposed to Prometone at 18 and 10 ppm showed dark pigmentation.

CHEMICAL: Prometone (99.2% a.i.) Acetone Solvent Used

TITLE: Prometone Safety Evaluation on Fish and Wildlife (Bobwhite Quail, Mallard Ducks, Rainbow Trout, Goldfish and Sunfish).

ACCESSION NO. 231814

STUDY DATE: November 3, 1965

RESEARCHER: Woodard Research Corporation

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: Acceptable

CATEGORY REPAIRABILITY: Fish were tested 5 per chamber. 7 test concentrations were conducted, the geometry spacing between groups was .556. Water temperature was 13°C. The mean weight of the fish was 0.9 gram and the mean length was 3.9 cm.

VALIDATOR: Tom O'Brien 2/3/78

5

103.1.3 Fish

DATA REVEIW NUMBER: ESF1

TEST: Fish Acute 96 hour LC_{50} (Warm Water)

SPECIES: Bluegill Sunfish (Lepomis macrochirus)

RESULTS: 48 hours LC_{50} > 32 ppm
96 hour LC_{50} > 32 ppm

The fish exposed to prometone at 32 ppm showed dark pigmentation of skin. Fish in the test concentrations and control did not have any mortality.

Acetone Solvent used.

CHEMICAL: Prometone (99.2% a.i.)

TITLE: Prometone Safety Evaluation on Fish and Wildlife (Bobwhite Quail, Mallard Duck, Rainbow Trout, Goldfish and Sunfish).

ACCESSION NO. 231814

STUDY DATE: November 3, 1965

RESEARCHER: Woodard Research Corp.

REGISTRANT: Ciba-Geigy Corp.

VALIDATION CATEGORY: Acceptable

CATEGORY REPAIRABILITY: Fish were tested 5 per test chamber, 6 test concentrations were used and the water temperature ranged between 18- and 23°C. The mean weight of the fish was 0.8 grams and the mean length 3.4 cm.

VALIDATOR: Tom O'Brien 2/3/78

103.1.4 Aquatic Invertebrate

DATA REVIEW NUMBER: ESH1

TEST: Aquatic Invertebrate Acute Toxicity

SPECIES: Water Flea (Daphnia magna)

RESULTS: 48 hour LC_{50} = 59.8 mg/L (52.0-68.6 ppm) 95% C.L.

Observed no effect level is 18.0 mg/l. Calculations below done by Finney Probit.

7.935	M	58.351	LD50	40.223	LD_{10}	84.648	LD_{90}
-9.013	YINT	51.080	LDCL	32.841	LOCL	68.760	LDCL
1.337	LW M	66.656	UPCL	49.264	UPCL	104.207	UPCL →
2.371	CHI^2						

Acetone Control Used

CHEMICAL: Promoton (Technical)

TITLE: Acute toxicity of Prometon - FL -761263 to the Water Flea Daphnia magna straus.

ACCESSION NO. 23184

STUDY DATE: June 6, 1977

RESEARCHER: Union Carbide Enviornmental Services
Union Carbide Corporation
Tarrytown, New York

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: Acceptable

CATEGORY REPAIRABILITY: NA

VALIDATOR: Tom O'Brien 2/3/78

Daphnia magna
Promotion Tech
Union Carbide
of Ciba-Geigy

16.	
C.	
2C.	
32.	
1.	
2C.	
5E.	
7.	
2C.	
10C.	
2C.	
2C.	

7.935	M
-9.013	YINT
1.337	LW M
2.371	CHI²
58.351	LD50
51.080	LOCL
66.656	UPCL
40.223	LD16
32.841	LOCL
49.264	UPCL
84.648	LD90
68.760	LOCL
104.207	UPCL

103.1.4 Aquatic Invertebrate

DATA REVIEW NUMBER: EST1

TEST: Shell Deposition (Marine Mollusc)

SPECIES: Oysters (Ostrea virginica)

RESULTS: Prometone in a concentration of 1.0 ppm did not inhibit shell growth, based upon a method of measurement of shell growth by weighing in water (Andrews J.D.)[1]. No mortality was recorded in the 1 ppm Promoetone concentration. A significant difference between control and treated groupd did not exist.

CHEMICAL: Prometone Technical (99.2%)

TITLE: Prometone; The Effect on Shell Growth in Oysters

ACCESSION NO. 23184

STUDY DATE: December 16, 1966

RESEARCHER: Wright, Leslie S.
Woodard Research Corporation

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: Supplemental

CATEGORY REPAIRABILITY: No. The following discrepancies were noted. The test vessels were constructed of polyethylene, only one test level was run, an EC 50 for shell deposition was not run, and shell growth was not measured by grinding the free edge of the shell clean and then measuring new growth in the 96 hour period. Test protocol calls for measurement of shell growth by actually measuring the new growth in mm rather than measuring weight change in oysters from initiation of test until one week has passed and then making a comparison to controls.

VALIDATOR: Ton O'Brien 2/4/78

REFERENCE: [1] J.D. Andrews, 1961. Measurement of Shell Growth in Oysters by weighing in water. Proc. Natl. Assoc. Shell Fisheries; pp. 1-11.

103.3.0 Subacute Toxicity

DATA REVIEW NUMBER: ESD1

TEST: Avian Subacute Dietary LC_{50} (Upland Gamebird)

SPECIES: Bobwhite Quail (Colinus virginianus)

RESULTS: LC_{50} > 20,000 ppm

Research lab caluclated LC_{50} in terms of active ingredient and determined an LC_{50} > 5080. Toxic symptoms of Quail at 20,000 and 10,000 ppm consisted of depression. There was a significant decrease of food consumption compared to positive and negative controls. Body weight gains were reduced at 10,000 and 20,000 ppm.

CHEMICAL: Prometone 25E (25% a.i.)

TITLE: Prometone Safety Evaluation on Fish and Wildlife (Bobwhite Quail, Mallard Ducks, Rainbow Trout, Goldfish and Sunfish.)

ACCESSION NO. 23184

STUDY DATE: November 3, 1965

RESEARCHER: Woodard Research Corporation

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: Supplemental

CATEGORY REPAIRABILITY: No. The age of quail was 6 to 8 weeks, and data requirements call for 14 day old birds. Other discrepancies noted were only 3 dose levels were used. The birds were maintained on test diet for 7 days (rather than 5) and then returned to basal diet for 3 days. The material tested was a 25% formulation and the inerts are petroleum solvents which may alter toxicity or cause repellency from the feed.

VALIDATOR: Tom O'Brien 2/3/78

103.3.0 Subacute Toxicity

DATA REVIEW NUMBER: ES E1

TEST: Avian Subacute Dietary LC_{50} (Wild Waterfowl)

SPECIES: Mallard Duck (Anas platyrhynchos)

RESULTS: LC_{50} = 18,000 (14286-22680 ppm) 95% C.L.

Research lab calculated LC_{50} in terms of active ingredient LC_{50} = 4,572 (3,629-5,761 ppm) 95% C.L. There was decreased food consumption and decreased body weight gain in all groups treated with Prometone 25E compared to both negative and positive controls.

CHEMICAL: Prometone 25E (25% a.i.)

TITLE: Prometone Safety Evaluation on Fish and Wildlife (Bobwhite Quail, Mallard Ducks, Rainbow Trout, Goldfish and Sunfish).

ACCESSION NO. 23184

STUDY DATE: November 3, 1965

RESEARCHER: Woodard Research Corporation

REGISTRANT: Ciba-Geigy

VALIDATION CATEGORY: Supplemental

CATEGORY REPAIRABILITY: The material tested was a 25% formulation. The formulated product contains over [redacted] which may interfer with toxicity. There was also noted a definite repellency and this may have been caused by the inerts in the formulation and not the technical.

VALIDATOR: Ton O'Brien 2/3/78

INERT INGREDIENT INFORMATION IS NOT INCLUDED

104.C Hazard Assessment

104.1 Discussion

104.1.3 Adequacy of Toxicity Data

See conclusions Sec. 107.4.

107.0 Conclusions

107.4 Data Adequacy

The submitted data has been reviewed and the following decisions were reached:

A. The following studies are acceptable:

1. The warm water fish LC_{50}.

2. The cold water fish LC_{50}.

3. The aquatic invertebrate LC_{50}.

B. The following studies cannot be used to meet basic data requirements:

4. The avian acute oral LD_{50}. ~~was not acceptable because birds of a proper age were not utilized~~. HTC

3. The avian subacute 8 day dietary for an upland game bird was not acceptable because the age of the birds, the material tested was not technical, and only 3 dose levels were utilized.

2. The avian subacute 8 day dietary for a wild waterfowl was not acceptable because the material tested was a 25% formulation rather than the technical.

Thomas F. O'Brien
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2/4/78
Environmental Safety Section
EEEB-RD WH-567

12