US EPA ARCHIVE DOCUMENT

EEE BRANCH REVIEW

DATE: IN 12/22/78 OUT 10/2/79 IN _____ OUT _____ IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 100-587

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). 236620

PRODUCT MGR. NO. 23

PRODUCT NAME(S) Metolachlor

COMPANY NAME Ciba - Geigy

SUBMISSION PURPOSE Resubmission with data

CHEMICAL & FORMULATION _____

100.0 Purpose of Submission

Data Submission

101.0 Chemical & Physical Properties

101.1 Chemical Name

Metolachlor (Technical)

104.0 Hazard Assessment

104.1 Adequacy of Data

The Bobwhite quail and Mallard duck one - generation reproductive studies as well as the Fathead minnow complete life cycle study were found to be adequate to support registration.

105.0 Conclusions

The studies submitted by Ciba-Geigy were found to be adequate to support registration.

Richard W. Felthousen
Ecological Effects Branch

10/16/79
D. Coppage, Section Head
Ecological Effects Branch

10/16/79
C. Bushong, Branch Chief
Ecological Effects Branch

10/2/79

VALIDATION SHEET CRF #_____ PAGE ____ OF ____

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Felthousen					Date: 9/20/79		
97.4		Metolachlor (CGA-24705)	Test Type: Fish Complete Life Cycle MRID # 00162428							
			Test ID.#							

CITATION:

Test: Complets Life Cycle

Species: Fathead Minnow (Pimephales promelas)

Title: "Chronic Toxicity of CGA-24705 to the fathead Minnow (Pimephales promelas)"

Reseacher: EG & G, Bionomics

Accession No: 236620

Study Date: November, 1978

✓ entered Conchi Rodriguez Re-Reviewed This study in 1994 supplemental

Results:

A. Acute Toxicity Tests- (1) Based upon mean measured concentrations, the 96-hour LC50 and 95% C.I.'s were calculated to be 9.2 (7.9-11.0) mg/l.

(2) Mortality to juvenile fish was observed in mean measured test concentrations as low as 2.6 mg/l.

B. Chronic Exposure-

First Generation (F_o)

(1) Thirty days after hatching no F_o fry had survived exposure to a mean measured concentration of 3.4 mg/l and survival of fry exposed to 1.6 mg/l was significantly reduced.

(2) Between days 64-181, five of fifteen fish exposed to 1.6 mg/l had died.

(3) Two fish exposed to 0.78 mg/l were found to have severe spinal deformities.

3

Spawning

1) The number of spawns per female and the number of eggs spawned per female among fish exposed to concentrations _ 1.6 mg/l were not significantly different from control.

2) An analysis of variance indicated a difference due to treatment in the number of eggs per spawn, however, Dunnett's procedure failed to identify any treatment significantly different from control. This would suggest that treatment differences in the number of eggs per spawn occurred among groups exposed to CGA-24705 and did not reflect an effect on spawning relative to control.

Second Generation (F.)

1. Fry from eggs spawned by control parents and incubated in 3.4 mg/l CGA-24705 hatched successfully, but after 34 days exposure, their survival was significantly reduced.

2. Total lengths and average wet weight of fry which survived 34 days exposure to 3.4 mg/l CGA-24705 were significantly smaller than control fry.

VALIDATION SHEET CRF #_____ PAGE ____ OF ____

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Felthousen					Date: 10/2/79		
97.0		Metolachlor Technical	Test Type: One-Generation Reproduction Study -Bobwhite Quail							
			Test ID.#							

CITATION:

Title: One-Generation Reproduction Study - Bobwhite Quail, Metolachlor Technical (CGA-24705) Final Report.

Researcher: Wildlife International Ltd.

Study Date: October 27, 1978

Species: Bobwhite Quail

Accession No: 236620

Company: Ciba-Geigy

Results:

" CGA-24705 Technical Metolachlor was fed to mature Bobwhite quail at dietary concentrations of 10 ppm, 300 ppm and 1000 ppm throughout a One-Generation Reporduction Study and had no meaningful effect on the reproductive success of the birds.

Based on the results of this study, environmental levels of up to 1000 ppm of CGA-24705 Technical Metolachlor do not represent a reproductive hazard to the Bobwhite Quail."

Validation: Core - adequate to support registration.

VALIDATION SHEET CRF #_____ PAGE ____ OF ____

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Felthousen						Date: 10/2/79	
97.0%		Metolachlor Technical	Test Type: One-Generation Reproduction Study -Mallard Duck							
			Test ID.#							

CITATION:

Title: One-Generation Reproduction Study-Mallard Duck, Metolachlor Technical (CGA-24705) Final Report.

Researcher: Wildlife International Ltd.

Study Date: October 12, 1978

Species: Mallard Duck

Accession No: 236620

Company: Ciba-Geigy Corporation

Results:

" Metolachlor Technical (CGA-24705) was fed to mature Mallard Ducks at dietary concentrations of 10 ppm, 300 ppm and 1000 ppm throughout a One-Generation Reproduction Study and had no effect on the reproductive success of the birds.

Based on the results of this study, environmental levels of up to 1000 ppm of Metolachlor Technical (CGA-24705) do not represent a reproductive hazard to the Mallard Duck."

Validation: Core - adequate to support registration.