DP Barcode : D168875
PC Code No. : 028201
EFGWB Out :
JAN 13 1992

To: Walter Waldrop
Product Manager PM 71
Special Review and Reregistration Division (H7508W)

From: Akiva D. Abramovitch, Ph.D., Head
Environmental Chemistry Review Section #3
Environmental Fate & Ground Water Branch/EFED (H7507C)

Thru: Henry Jacoby, Chief
Environmental Fate & Ground Water Branch/EFED (H7507C)

Attached, please find the EFGWB review of...

Reg./File # :707-109

Chemical Name :Propanil

Type Product :Herbicide

Product Name :Stam M-4

Company Name :Propanil Task Force

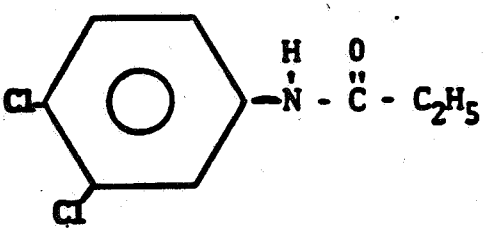
Purpose :Review of Confined Crop Accumulation Study Protocol for the Propanil Task Force

Action Code :635 EFGWB #(s): 91-0974 Total Review Time: 2 days

EFGWB Guideline/MRID Summary Table: The review in this package contains...							
161-1		162-1		164-1		165-1	Protocol review	166-1	
161-2		162-2		164-2		165-2		166-2	
161-3		162-3		164-3		165-3		166-3	
161-4		162-4		164-4		165-4		167-1	
201-1		163-1		164-5		165-5		167-2	
202-1		163-3							

1. **CHEMICAL:**

Chemical Name: 3',4'-dichloropropionanilide
CAS No.: 709-98-8
Common Name: Propanil
Trade Name: Stam M-4
Chemical Structure:



Molecular Formula: $C_9H_9Cl_2NO$
Physical/Chemical Properties of Active Ingredient:

Molecular Weight: 218
Physical state: Crystalline
Color: Orange-yellow
Vapor pressure: 4 MPa (25 °C)
Solubility: <0.5 ppm (20 °C), 700 g/L acetone
Octanol/water partition coefficient: N/A
Formulations: 4 EC

2. **TEST MATERIAL:** N/A

3. **STUDY/ACTION TYPE:**

Review of 165-1 protocol submitted by the Propanil Task Force.

4. **STUDY IDENTIFICATION:**

Novak, Roger A. 1991. Protocol for 165-1 study submitted by the Propanil Task Force. American Cyanamid, Princeton, New Jersey (EFGWB 91-0974).

5. **REVIEWED BY:**

James A. Breithaupt
Agronomist, Review Section #3
OPP/EFED/EFGWB

Signature: James Breithaupt
Date: 1/7/92

6. **APPROVED BY:**

Akiva Abramovitch, Ph.D.
Chief, Review Section #3
OPP/EFED/EFGWB

Signature: Akiva Abramovitch
Date: JAN 7 1992

7. CONCLUSIONS:

EFGWB has the following comments on the protocol (Attachment 1):

In Attachment 2, the Propanil Task Force (PTF) was supposed to start an accumulation in confined rotational crops (165-1) study in Spring 1991. PTF was not aware of any laboratories in Arkansas, Louisiana, Mississippi, or Texas with current GLP compliance and proper ^{14}C-licensing. Also, USDA quarantine prohibits the movement of viable Louisiana or Arkansas soil anywhere from the South due to the possible presence of fire ants and soybean cyst nematodes. In response to the letter in Attachment 2, EFGWB suggested that a California rice soil that "closely resembles" southern rice soil be used instead of a "typical California rice paddy soil." In Louisiana and Arkansas, the predominate soil that supports rice production is the Crowley silt loam (2 % sand, 79 % silt, 18 % clay, ≤1 % OM, pH 5.7). The PTF (this protocol) then suggested using a typical California rice paddy soil (16 % sand, 61 % silt, and 23 % clay, silt loam texture), which is "similar in texture" to the Crowley soil. EFGWB does not object to the use of this soil in the study, if no other rice-growing silt loam soil with closer sand, silt, and clay contents to the Crowley can be found. EFGWB needs comparison of the complete USDA classification of the California soil to the Crowley soil with the completed study.

OTHER COMMENTS

In section 3.3 of the protocol, the PTF plans to use TLC to determine the stability of the test material. If TLC is used in the study, guidelines call for TLC with 3 different solvent systems. However, EFGWB prefers to see GC/MS or HPLC/MS used in place of TLC for all analytical procedures.

In section 4.1, compositing of triplicate soil and plant samples within sampling interval with "appropriate" amounts of radioactivity was mentioned. EFGWB prefers separate analyses in place of compositing and guidelines call for identification of residues that are ≥10 % of applied chemical or 0.01 ppm.

Also in section 4.1, the PTF indicated that the equivalent rate of 6 lbs ai/A would be used in the study. According to the label dated 2/13/91 (Attachment 3) and the LOUISIANA WEED CONTROL RECOMMENDATIONS (Attachment 5), the normal maximum rate of propanil to be applied in one application to rice is 4 lbs ai/A not to exceed 8 lbs/ai/A in 2 applications. However, the label allows for application of a one-time application of 5-6 lbs ai/A as an "emergency/salvage treatment" to control larger grasses 30-40 days after planting. Use of the 6 lb ai/A rate is consistent with the label and Louisiana Weed Control Recommendations and would give concentrations of 6 ppm based on a 3-inch acre furrow slice or 3 ppm based on a 6-inch acre furrow slice.

In section 4.2.4, a comparison of the soil from the study to the Crowley silt loam is necessary.

Chemical analysis of the irrigation water (section 4.2.6) used at the beginning and end of the study should be reported.

In section 4.3.3, the protocol stated "analysis of unknown metabolites that are judged to be significant" will be conducted by mass spectrometry or other appropriate methods. EFGWB guidelines call for identification of residues that are ≥10 % of applied chemical or 0.01 ppm.

ENVIRONMENTAL FATE ASSESSMENT

According to EFGWB 91-0667 (Attachment 4), all data requirements are outstanding. To date, EFGWB is not aware of any detections in ground water.

8. RECOMMENDATIONS:

Inform the Propanil Task Force that:

(1) the modifications to the protocol that were specified in the CONCLUSIONS section should be made,

(2) analytical methodology validation should be provided with the results of the study. EFGWB 92-0034 called for method validation of propanil and pendimethalin in environmental media when applied as a tank mix. These data were required of American Cyanamid in EFGWB 92-0034, and may substitute for this method validation if a cost-sharing arrangement is obtained and the data are reasonable.

(3) the status of data requirements may be seen in EFGWB 91-0667 (Attachment 4).

9. BACKGROUND: (from EFGWB 90-0417)

Propanil is a broad-spectrum, postemergence contact herbicide registered for use on rice, barley, oats, and wheat. The majority of domestic usage is on rice, about 70-80 %.

10. DISCUSSION OF INDIVIDUAL STUDIES: N/A

11. COMPLETION OF ONE-LINER: N/A

12. CBI INDEX: N/A

NPC

NPC, INCORPORATED
22636 GLENN DRIVE, SUITE 304
STERLING, VIRGINIA 22170
(703) 481-6802 VOICE • (703) 481-6806 FAX

September 5, 1991

Terri Stowe
Office of Pesticide Programs
Special Review & Reregistration Division (H7508C)
Document Processing Desk (RS-0226)
Room 266A Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22022

Dear Ms. Stowe:

RE: Propanil confined rotational crop - final protocol

On behalf of the Propanil Task Force I am submitting a copy of the final signed protocol for the propanil confined rotational crop study for agency review and comment. The agency has commented on an earlier version of this protocol. The enclosed protocol incorporates the agency comments and is the protocol under which the study was initiated earlier this summer. We would appreciate a review of this final protocol as there is still time to respond further comments.

If you have any questions, please do not hesitate to call.

Sincerely,

Roger A. Novak
Technical Director, Propanil Task Force

encl

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STUDY PROTOCOL

STUDY NUMBER: XBL Study Number 91011

STUDY TITLE: Confined Rotational Crop Study with ^{14}C-Propanil: Analysis of Soil and Plant Samples

EPA GUIDELINE: Subdivision N (165-1)

SPONSOR: Propanil Task Force
John Wise, Chairman
1042 Linwood Lane
Liberty, MO 64068

SPONSOR REPRESENTATIVE: Roger A. Novak, Ph.D.
Technical Director, Propanil Task Force
c/o NPC, Incorporated
22626 Glenn Dr. Suite 304
Sterling, VA 22071
(703) 481-6802

STUDY DIRECTOR: Robert A. Robinson, Ph.D.
XenoBiotic Laboratories, Inc.
P.O. Box 3205
Princeton, NJ 08543-3205
(609) 799-2295

TESTING FACILITY (Analytical Phase): XenoBiotic Laboratories, Inc. (XBL)
Industrial Research Laboratory
Schalks Crossing Road
Plainsboro, NJ 08536

TESTING FACILITY (In-life Phase): Pan-Agricultural Laboratories, Inc. (Pan-Ag)
32380 Avenue 10
Madera, CA 93638

TEST SUBSTANCE: ^{14}C-Propanil

PROPOSED STUDY SCHEDULE: Experimental Start Date: April 1991
Experimental Termination Date: January 1993

RIN 1876-95

PROPANIL EFGWB REVIEW

Page____ is not included in this copy.

Pages 7 through 24 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

____ A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

✓ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

Attachment 2. Letter from the Propanil Task Force.

Attachment 3. The Latest Label for Propanil.

RIN 1876-95

PROPANIL EFGWB REVIEW

Page____ is not included in this copy.

Pages 27 through 28 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

__V__ A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

____ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

Attachment 4. Copy of EFGWB 91-0667 That Contains the Current Data Requirements.

Shaughnessy Number: 028201

Date out of EFGWB: JUL 18 1991

To: Product Manager 71 (Waldrop/Stowe)
Reregistration Division

From: Akiva Abramovitch, Head
Environmental Fate Review Section #3
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Thru: Hank Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Attached, please find the EFGWB review of...

Reg./File #: n.a.

Chemical Name: Propanil

Type Product: herbicide

Product Name: n.a.

Company Name: Rohm and Haas

Purpose: request for status report on data requirements; re evaluation of waiver requests

Date Received: 06/04/91

Action Code: 614

EFGWB#(s): 91-0667

Total Reviewing Time (decimal days): 0.5 Days

Deferrals to:
___Ecological Effects Branch, EFED
___Science Integration and Policy Staff, EFED
___Non-Dietary Exposure Branch, HED
___Dietary Exposure Branch, HED
___Toxicology Branch

photodegradation on soil -- *not fulfilled*

aerobic soil metabolism -- partially fulfilled, supplemental information provided by MRID 415387-01, reviewed EBC 12/3/90

anaerobic soil metabolism -- can be fulfilled by the anaerobic aquatic metabolism study which is to be submitted by the Propanil Task Force

leaching/adsorption/desorption -- pending, will be submitted by the Propanil Task Force

field soil dissipation -- pending, will be submitted by the Propanil Task Force

long term field dissipation -- conditionally required, if the short term study indicates the need

accumulation in confined rotational crops -- pending, will be submitted by the Propanil Task Force

accumulation in field rotational crops -- conditionally required, if the confined study indicates uptake of residues of concern

fish bioaccumulation -- waiver recommended due to low k_{ow} and applicant's affirmation of low accumulation in fathead minnows

Data requirements for aquatic food use and their status is as follows:

hydrolysis -- pending, also required for terrestrial crop use; will be submitted by the Propanil Task Force

photolysis in water -- pending, will be submitted by the Propanil Task Force

anaerobic aquatic metabolism -- pending, will be submitted by the Propanil Task Force

aerobic aquatic metabolism -- pending, will be submitted by the Propanil Task Force

leaching/adsorption/desorption -- pending, also required for terrestrial crop use as noted above; will be submitted by the Propanil Task Force

aquatic field dissipation -- pending, will be submitted by the Propanil Task Force

long term field dissipation -- conditionally required

confined accumulation on rotational crops -- pending, will be submitted by the Propanil Task Force

field accumulation on rotational crops -- requirement reserved pending results of confined study, also required for terrestrial uses, as noted above

confined accumulation on irrigated rotational crops -- pending

fish bioaccumulation -- waiver recommended due to low k_{ow} and applicant's affirmation of low accumulation in fathead minnows

Because of informal reports that propanil applied to rice subsequently reached and damaged non-target crops, especially prune trees, EFGWB also requires the following studies, which are not usually imposed for aquatic uses:

lab volatility -- the Propanil Task Force has not specifically addressed this issue

Attachment 5. The Louisiana Weed Control Recommendations on Rice.

Louisiana's

Suggested Chemical Weed Control Guide for 1991

Weed Control Performance Ratings of Selected Rice Herbicides in Trials Conducted by the Louisiana Experiment Station

	Barnyardgrass	Red Rice	Sprangletop	Signalgrass	Sedges	Alligatorweed	Ducksalad	Redstem	Hemp Sesbania	Waterhyssop	Jointvetch	Dayflower	Texasweed
PREEMERGENCE													
Bolero PPS	G	G[1]	G	F	E	P	E	G	F	E	F	E	P
Ordram (PPI)	E	G[1]	-	F	E	P	P	P	P	P	P	P	P
Modown	P	P	P	P	-	-	F	F	F	F	-	F	P
Bolero (Delayed)	G	P	G	F	-	P	E	E	P	E	P	E	P
POSTEMERGENCE													
Arrosolo	E	P	E[2]	E	E	P	G[2]	G[2]	E	-	G[2]	G[2]	E
Propanil	E	P	E[2]	E	E	P	G[2]	G[2]	E	-	G[2]	G[2]	G
Ordram	G	P	-	P	G	P	P	P	P	P	P	P	P
2,4-D Amine	P	P	P	P	P[3]	G	E	E	E	E	G	E	E
2,4-D Dacamine	P	P	P	P	P[3]	G	E	E	E	E	G	E	E
Blazer	P	P	P	P	P	P	-	-	E	-	P	-	F
Basagran	P	P	P	P	E	P	F	E	F	G	P	E	P
Modown + Propanil	E	P	E[2]	E	E	P	G[2]	G[2]	E	-	G[2]	G[2]	G
Prowl + Propanil	E	P	E[2]	E	E	P	G[2]	G[2]	E	-	G[2]	G[2]	G

Weed Control Performance Ratings of Selected Rice Herbicides in Trials Conducted by the Louisiana Experiment Station
(ontinued)

	Barnyardgrass	Red Rice	Sprangletop	Signalgrass	Sedges	Alligatorweed	Ducksalad	Redstem	Hemp Sesbania	Waterhyssop	Jointvetch	Dayflower	Texasweed
Bolero + Propanil	E	P	E	E	E	P	G[2]	G[2]	E	-	G[2]	G[2]	G
Modown	-	-	-	-	-	G	-	-	-	-	-	-	P
Whip	E[4]	P	E[4]	E[4]	P	P	P	P	P	P	P	P	P
Londax	P	P	P	P	E	F	E[5]	E	P	E	P	G	G

[1]With proper water management
[2]Controlled only when small (less than 2 leaf)
[3]A few sedges are controlled
[4]See following comments

[5]See foloowing comments on ducksalad

Poor - less than 49%
Fair - 50-69%
Good - 70-89%
Excellent - 90-100%
- not rated

RICE
(Continued)

Rate/Acre Active Ingredient	Rate of Formulated Material for 1 Acre Broadcast	Time To Apply	Weeds Controlled	Remarks
POSTEMERGENCE				
propanil at 3.0 to 6.0 lb/A	Various formulations 3.0 to 6.0 qt of 4.0 lb/gal material or 3.5 to 7 lb of 85% dry flowable. Apply 10 gal by air, 20 by ground	Grass prior to 4 leaf stage. Usually within 10-14 days after seeding.	Most annual grasses, some sedges and broadleaf weeds in the seedling stage.	Control best with good soil moisture and temperature above 70° F. with actively growing grass. Use 3.0 lb for grass in 3 leaf stage, 4.0 to 4.5 lb for grass in 4 to 5 leaf stage, or when grass is stunted and deep-rooted in dry soil. 5.0 lb for larger grass that is tillering; control usually not entirely satisfactory. Do not apply after rice is in the late tillering stage (45-60 days after planting). Do not use more than 6 lbs. actual per single treatment. Do not apply over 8.0 lb total per season. Apply to drained field and flood in about 12 to 24 hours if weather is warm, grass is growing actively and soil is moist. During cool cloudy weather, leave unflooded 4 to 5 days if possible. Do not treat when temperature is below 50° F. or above 100° F. In many cases a reinfestation occurs and a second application is needed.

RICE
(Continued)

Rate/Acre Active Ingredient	Rate of Formulated Material for 1 Acre Broadcast	Time To Apply	Weeds Controlled	Remarks
propanil (continued)				However, the 8 lb season limitation should not be exceeded. Read and follow label directions on bird repellants concerning subsequent use of propanil. Propanil should not be applied after Furadan has been used. Do not apply to second crop.
molinate at 3.0-4.0 lb/A	Ordram 15G 20-25 lb of granular material	Rice should be large enough to be flooded. Grass should be a minimum of 1" but no taller than 5".	Barnyardgrass, seedling yellow nutsedge, fimbrystilis, and spikerush.	Grass must be at least 2/3 submerged at time of application. A flood of at least 2 inches in depth must be maintained after treatment. Drainage may result in loss of control.
molinate + propanil at 4.5 - 6.0 lb/A	Arrosolo 3-3E 3-4 qt	Apply at same time that would be suitable for propanil application.	Barnyardgrass, sprangletop and small broadleaf weeds.	Similar in control to propanil. May be more active on certain weeds when compared to equivalent rate of propanil.

Attachment 6. Administrative Materials.

DP BARCODE: D168875 REREG CASE #

CASE: 818688 DATA PACKAGE RECORD DATE: 09/18/91
SUBMISSION: S402808 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REREGISTRATION ACTION: 635 PROPOSED TEST PROT SUBM
CHEMICALS: 028201 3',4'-Dichloropropionanilide

ID#: 028201
COMPANY:
PRODUCT MANAGER: 71 WALTER WALDROP 703-308-8062 ROOM: CS1 3B3
PM TEAM REVIEWER: TERRI STOWE 703-308-8043 ROOM: CS1 3D5
RECEIVED DATE: 09/16/91 DUE OUT DATE: 12/25/91

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 168875 EXPEDITE: Y DATE SENT: 09/18/91 DATE RET.: / /
CHEMICAL: 028201 3',4'-Dichloropropionanilide
DP TYPE: 001 Submission Related Data Package
ADMIN DUE DATE: 12/17/91 CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	09 18 91	/ /
BRAN: EFGB	/ /	/ /
SECT:	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

* * * DATA REVIEW INSTRUCTIONS * * *

ATTN.: FOR IMMEDIATE REVIEW - PROPANIL PROTOCOL

Please review the Propanil protocol for GLN 165-1 Confined Rotational Crop study. Please send a copy of the review to:

Terri Stowe
SRRD/RB (H7508W)
Crystal Station I - 3rd fl.

THANK YOU!!!

For the attached reregistration case, please identify all applicable data requirements and note those for which adaquate data have not been submitted to the Agency.

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

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

A bramovitch
12/17

DP Barcode :D 168875

PC Code No. : _____

Date Out : _____

TO: _____
Product Manager _____
Registration Division (H7505C)

FROM: Akiva Abramovitch, Head
Chemistry Review Section #3
Environmental Fate and Groundwater Branch

THRU: Hank Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Attached, please find the EFGWB review of...

Reg./File # : _____

Chemical Name : Propanil

Type Product : _____

Product Name : _____

Company Name : _____

Purpose : _____

: _____

: _____

Date Received: ___/___/___ EFGWB#: 91-0224 Time (days): ___.___

Deferrals to:

____ EEB/EFED ____ DEB/HED ____ TB1/HED

____ SIPS/EFED ____ OREB/HED ____ TB2/HED