



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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2-25-94*

MAR 25 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Response to the Propanil Reregistration Standard:
Residue Chemistry (No MRID #, CBRS # 13,332, Barcode:
D200196).

FROM: R. B. Perfetti, Ph.D., Chemist *RB Perfetti*
Reregistration Section 2
Chemistry Branch II: Reregistration Support
Health Effects Division (7509C)

THRU: W. J. Hazel, Ph.D., Section Head *WJ Hazel*
Reregistration Section 2
Chemistry Branch II: Reregistration Support
Health Effects Division (7509C)

TO: Lois Rossi, Chief
Reregistration Branch
Special Review & Reregistration Division (7508W)

The Propanil Task Force has responded to a CBRS review of 9/2/92 (R. B. Perfetti) in which we recommended that label restrictions requiring a rice retreatment interval of 14 days and prohibiting discharge of paddy water within 60 days of the last application of propanil would obviate the need for the establishment of an MCL in water and tolerances in irrigated crops. The Registrant has submitted a letter of 1/28/94 in which they argue that the retreatment interval and the 60 day water discharge restriction are not acceptable because they would seriously disrupt rice cultural practices. The Registrant proposes no retreatment interval and a 14 day water discharge interval.

CBRS has reevaluated the data in MRID's 42200401 and 42200501 and concludes that, based on the data available, a retreatment interval of 7 days would be acceptable and a water discharge restriction of 30 days would be adequate. These are the minimum intervals which could be accepted. If the Registrant cannot accept these restrictions, then additional data supporting the Task Force proposals are required. In lieu of these supporting data, CBRS would class the application of propanil to rice as an aquatic use and additional residue data would be required to



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determine an appropriate level in/on water as well as acceptable tolerance levels on irrigated crops.

If you need additional input please advise.

cc: RBP, Propanil Reregistration Standard File, Propanil Subject File, RF and Circ..

NPC

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*D200196
Baicade*

January 28, 1994

Lois Rossi, Chief
Reregistration Branch
Special Review and Reregistration Division (H7508C)
Environmental Protection Agency
2800 Crystal Drive
Crystal Station 1, 3rd Floor
Arlington, VA 22202

Dear Ms. Rossi:

Subject: Review of Propanil Data for Magnitude of Residue in Irrigation and Potable Water Study (GLN 171-4F) dated October 30, 1992.

The Propanil Task Force is responding to your letter of October 30, 1992 and attached review regarding the above study. The Agency is requesting additional product label amendments related to establishment of retreatment and discharge intervals for propanil based on its review of aquatic dissipation studies conducted by the Propanil Task Force in Louisiana and Arkansas. The Agency's proposed amendments and the response of the Task Force is provided below:

Agency request: Specify a minimum of 14 days between applications.

Task Force response: This proposed label restriction would severely limit a rice grower's ability to obtain satisfactory weed control while not advancing towards any meaningful risk reduction goal. Retreatment of the rice with a herbicide may be necessary during the growing season, however, retreatment is the exception and not the rule in rice culture. A grower may have to retreat his crop for a number of reasons:

- (1) Unpredictable rainfall shortly after an application. Propanil is strictly a contact herbicide and rainfall can wash it off the foliage and thus reduce its effectiveness.
- (2) Extreme weed pressure that prevents thorough spray coverage of weed foliage.
- (3) A grower's inability to establish a flood shortly after the initial propanil application. The inability to establish

a flood could be due to the physical limitations of the grower's water management capacity or to the immature growth stage of the rice plants. It is important that the flood be established within a day or two of the propanil application in order to retard further weed germination and growth.

For the above reasons, the Task Force proposes that no restrictions be placed on the time interval between retreatment. If retreatment becomes necessary, it would be very difficult for the grower to wait 14 days without incurring significant economic loss. During this time, the grasses/weeds continue to grow and require even higher rates of propanil to obtain levels of control similar to shorter retreatment intervals. The amount of propanil for control increases with maturity of the weed species.

Presumably, the restriction is designed to reduce the concentration of propanil in water discharged from the paddy. However, the propanil concentration would be dependent on the total amount of propanil applied and the time interval between the last application and discharge. The time interval between multiple propanil applications, i.e., retreatment interval has no meaningful effect on the concentration in the discharged paddy water. This is supported by the two aquatic dissipation studies submitted by the Propanil Task Force. Each study had different retreatment intervals yet paddy water residues were very similar and showed similar dissipation kinetics. Therefore, it is not justified to place such a severe restriction on rice growers if the restriction will have no obvious benefit to the environment.

Prohibit the discharge of rice paddy water within 60 days of the last application.

Agency request:

Task Force response:

The Task Force regards a 60 day limitation as unacceptable since this would seriously disrupt rice cultural practices on the majority of the U.S. crop acreage. Rice production methods commonly require a grower to discharge water (remove the flood) from his rice for the application of fertilizer and other chemicals, and to control "straight head" in rice. These practices occur within the proposed 60 day interval. In addition, water management for rice production is typically on a day-to-day basis and the depth of flood is closely regulated during the growing season.

*must list
a maximum
of ponds/season
and maximum
of applications
7 day*

Two different analytical methods were used to analyze the paddy water samples from the aquatic test sites. One method quantified the residues of "solvent extractable" propanil and 3,4-dichloroaniline (3,4-DCA). The second method measured total 3,4-DCA residues released by strong base hydrolysis of the water samples. This includes both "bound" and free propanil and 3,4-DCA residues. The data from the aquatic field test sites (LA & AR) clearly demonstrate that propanil and 3,4-DCA residues *per se*, i.e., solvent extractable, in paddy water fall to non-detectable levels of less than 10 parts per billion or 0.01 ppm within 14 days of the last application. Total "base-releasable" 3,4-DCA residues were detected through 21 days at the AR site and through 30 days in LA. The ability of chlorinated anilines such as 3,4-DCA to bind strongly to soil organic matter is well known. Such bound residues can only be released and measured utilizing under drastic conditions such as a 16 hour hydrolysis of the samples in 6N NaOH. This phenomenon is well documented in the scientific literature and in the propanil aquatic metabolism studies submitted to the Agency (MRID Nos. 41848701 and 41872601). The Task Force feels that it is inappropriate to set discharge restrictions upon what are trace residues strongly bound to soil humic matter suspended in the water column. Furthermore, the Task Force would like to point out that none of the other pesticides registered for application to rice have any such discharge restriction. This includes the acutely neurotoxic insecticides.

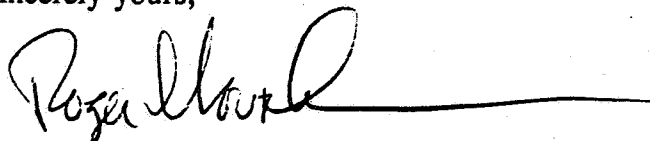
30 days
as well
be an aquatic
of use

The Task Force proposes that 14 days after final application is an appropriate discharge restriction that is supported by the data and would meet the Agency's objective while being compatible with rice cultural practices.

In summary, the Task Force proposes that there be no specified propanil retreatment interval. The necessity for retreatment is dictated mainly by meteorological conditions which are uncontrollable. In addition, the propanil residue data submitted by the Task Force indicate that retreatment interval has no impact on rice grain residues. Therefore, specifying a retreatment interval is not necessary for tolerance purposes. The Task Force feels that a 60 day discharge restriction is unrealistic for rice cultural practices whether propanil or any other pesticide is involved. The Task Force supports a 14 day paddy water discharge restriction. The Task Force agrees that the current half-mile restriction on discharging water in the vicinity of a potable water intake remain on the label. In addition, the Task Force has advised the Agency on January 3, 1994 that it is developing residue data to support the ground application of propanil.

We look forward to working with the Agency on propanil label amendments. If you have any questions, please do not hesitate to call.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Roger Novak", followed by a long horizontal line extending to the right.

Roger A. Novak
Technical Director, Propanil Task Force