028201

10-30-75 (3)

EEE BRANCH REVIEW

DATE: IN _____ OUT _____ IN 10/8/75 OUT 10/30/75 IN _____ OUT _____

FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 707-75

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED 10/1/75

DATE OF SUBMISSION 3CID Not necessary

DATE SUBMISSION ACCEPTED _____

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

PRODUCT MGR. NO. R. Taylor (25)

PRODUCT NAME(S) Stam F-34 and Stam GX-4

COMPANY NAME Rohm & Haas Company

SUBMISSION PURPOSE RICE - CALIFORNIA

CHEMICAL & FORMULATION 3',4'-dichloropropionanilide (propanil)

1.0 Introduction

1.1 Other names: Stam

1.2 Propanil is a herbicide used on rice.

1.3 See environmental chemistry review of 2/27/74.

1.4 A hydrolysis study and other environmental chemistry studies were requested in our review of 4/5/72.

1.5 A hydrolysis study was submitted with Rohm and Haas letter of 9/24/75.

2.0 Discussion of Data

2.1 Hydrolysis of Propanil in Water as a Function of pH

Ring labelled propanil was added to buffered aqueous solutions of pH 5.1, 7.2 and 8.8 and maintained 28 days at ca. 25°C. Samples were taken periodically, assayed for radioactivity and analyzed by TLC.

At pH 5.1 over 56% of original propanil was hydrolyzed to 3,4-dichloroaniline in 28 days. No other products were observed. At pH 7.2 and 8.9, 99% activity was present as propanil in 28 weeks.

TCAB, 3,4,3'4'-tetrachloroazobenzene was not detected.

Conclusions:

(1) Propanil is stable in neutral and alkaline aqueous solutions and hydrolyzes to 3,4-dichloroaniline under acidic conditions (pH 5.1).

(2) The azo compound, TCAB, was not detected under conditions of the study.

3.0 Recommendation

3.1 The data submitted satisfy our request for hydrolysis studies made in the review of 4/5/72.

Ronald E. Hey, Jr. 10/30/75

Arthur O. Schlosser 10/29/75
Environmental Chemistry Review Section
EEE Branch

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