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Date Out EFB: 15 March 1982.

To: Product Manager 16 Miller
TS-767

From: Dr. Willa Garner III
Chief, Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 100-L00

Chemical: Profenofos

Type Product: Insecticide

Product Name: Curacron

Company Name: Ciba-Geigy

Submission Purpose: Reevaluation of drift and runoff data

ZBB Code: ?

ACTION CODE: 111

Date in: 3/11/82

EFB # 228

Date Completed: 3/12/82

TAIS (level II) Days

Deferrals To: 350 61 1

X Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

15 March 1982

Profenofos Runoff Concentration

This note superceeds the information found in the runoff note of 17 February 1982.

From the soil dissipation studies for rotational crop uptake and effects, it was determined that the half-life for profenofos was 16.8 days in sandy soils and about 4.5 days for loamy soils.

When these same soil dissipation studies are used to calculate the k_s value (soil degradation constant) to be used in the SWRRB model to predict runoff, a value of .055 was determined. Other parameters introduced for the model were:

Pesticide washoff from leaves	- 4%
Pesticide appl. efficiency	- 50%
Half life on foliage	- 2 days
K_D (partition coef)	- 2976

This means that of the total material applied 50% will reach the foliage; half will decay on the foliage in 2 days; the material is tightly bound to the leaves and soil organic matter; and very little is washed off the foliage.

With this data and using two small basins in Watkinsville GA (WATKINS2) and Yazoo MS (YAZZ), the SWRRB model was run using both 3 - 1 lb applications and 6 - 0.5 applications/year. The maximum in both cases being 3 lb/acre/year. Applications were made so that at least one immediately preceeded a day of heavy rain (1.5 to 2.5 inches/day).

In all four instances, runoff quantities were negligible [<.001 lb/acre (limit of calculation by model)]. As a note of interest, if there were to be some runoff, greater than 95% of the material would be bound to the soil particles.

R.W. Holst, Ph.D., Plant Physiologist
Environmental Fate Branch
Hazard Evaluation Division

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CIBA-GEIGY Corporation
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Washington, D.C. 20006
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CIBA-GEIGY

March 10, 1982

Mr. William Miller
Product Manager (16)
Registration Division (TS-767C)
U.S. Environmental Protection Agency
Washington, D.C. 20460

SUBJECT: Environmental Safety Study
Review for Curacron 6E

Dear Mr. Miller:

On March 10, 1982 representatives of CIBA-GEIGY met with you and Ecological Effects and Environmental Fate Branch personnel to discuss additional ecological studies requested in your letter of March 8. Based on this meeting, we are requesting that the Environmental Fate Branch rereview the information provided on Curacron and provide to the Ecological Effects Branch an estimate of the potential residues of Curacron in pond sediment.

It is our belief that based on the EXAMS model such residues should not exceed 11 ppb and, in fact, was much less in sediment pore water. Furthermore, based on the rapid degradation of Curacron in soil, sediment and water, aquatic organisms will not be exposed to Curacron levels that are acutely or chronically toxic.

Yours truly,

Carolyn F. Brinkley

Carolyn F. Brinkley
Regulatory Specialist

CEB/ml

cc - Dr. Robert Holst

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PROFENOFOS

Page_____ is not included in this copy.

Pages 4 through 22 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.

X 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.