105001

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Shaughnessey No. 105001

Date Out EFB: 29 DEC 1983

To: Miller
Product Manager 16
Registration Division (TS-767)

From: Samuel Creeger, Chief
Review Section No. 1
Exposure Assessment Branch
Hazard Evaluation Division (TS-769)

Attached please find the environmental fate review of:

Reg./File No: 241-238

Chemical: Terbufos

Type Product: Insecticide/Nematicide

Product Name: Counter

Company Name: American Cyanamid

Submission Purpose: review field monitoring protocol

ZBB Code: ?

Date in: 12/19/83

Date completed: 12/28/83

ACTION CODE: 450

EFB # 4126

Tais (level II)	Days
62	1.50

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

3 pages

1.0 INTRODUCTION

American Cyanamid has submitted a field monitoring protocol for terbufos [S-[[(1,1-dimethylethyl)thio]methyl] O,O-diethyl phosphorodithioate] for our review.

2.0 DISCUSSION OF PROPOSED STUDY

Corn will be planted in early May at a site in the cornbelt where both at-planting and postemergence applications are commonly used. The field will be typical of the area and the site will include the field and a 100 m perimeter around the field with a pond known to be stocked with fish on the down-grade side of the field. COUNTER® will be applied at planting in a 15-20 cm band over the row at a rate of 0.15 kg/1000 m. The at-planting application will be followed by a post emergence aerial broadcast application at a rate of 7.5 kg/ha (6.7 lb/A). An untreated field and pond will serve as a control.

Soil samples (0-7 and 7-14 cm depths) will be taken in the treated field near the edge of the down-grade side and at 25 m intervals to the pond. Each sample will be a composite of 20 cores. Samples will be taken at -1, 0, 15 and 30 days after planting and -1, 0, 15, 30, 60, 90 and 120 days after the aerial application.

The sample depths appear adequate in light of the available leaching data for terbufos and its metabolites. These data indicate that terbufos does not leach significantly below 7 cm and that its metabolites do not leach significantly below 14 cm. The sampling schedule is also adequate based on soil halflife data available in EAB files. The halflife of terbufos in soil is 5-15 days.

Pond water and sediment from the pond in the 100 m perimeter of the treated study area will be sampled at -1, 15 and 30 days after planting and at -1, 0, 15, 30, 60, 90 and 120 days after the aerial application.

Analysis will be by previously established methods and include analysis for terbufos, terbufos sulfoxide and terbufos sulfone.

Full edaphic and topographic information; description of surrounding vegatation; history of the cropping programs, cultural practices and pesticide use; and climatic data will be submitted.

3.0 CONCLUSIONS

This study as described is acceptable with one concern. In the event of little or no rainfall, would it be possible to provide artificial rainfall/irrigation to cause runoff? The absence of rainfall before the residues dissipated may result in the need for another study.

Sample depths and sampling schedules are adequate based on available data. However, depending on the results, longer term monitoring may be necessary.

Norma Kay Whetzel
December 28, 1983
Review Section No. 1
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