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Shaughnessey No. 127201

Date Out EFB: 30 JAN 1984

To: Jacoby
Product Manager 21
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: 3125-GUA, 3125-GUT

Chemical: Baytan

Type Product: Fungicide

Product Name: Baytan II

Company Name: Mobay

Submission Purpose: information requested in previous review is submitted to support data requirements for use as a seed treatment

ZBB Code: other

ACTION CODE: 101

Date in: 10/11/83

EFB # 4010-4011

Date completed: 1/27/84

Tais (level II)	Days
61	0.5

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

1.0 INTRODUCTION

Mobay has submitted data requested in our previous review (6/22/83) of the use of Baytan (1-(4-chlorophenoxy)-3,3-dimethyl-1-(H-1,2,4-triazole-1-yl)-2-butanol) as a seed treatment.

2.0 CHEMICAL AND DIRECTIONS FOR USE

See our review of (6/22/83).

3.0 DISCUSSION OF DATA

Ultraviolet Spectral Energy Distributions of Natural Sunlight and Accelerated Test Light Sources. R.C. Hirt, R.G. Schmitt, N.D. Searle, and A.P. Sullivan. Journal of the Optical Society of America, 50(7):700. July 1960. Acc. No. 251245.

This article compares the spectral energy distributions of artifical light sources with that of natural sunlight. The article states:

> For materials sensitive to the shorter wavelength ultraviolet (below 3500 A), the fluorescent Sunlamp provides a good approximation of terrestrial sunlight. The combination of fluorescent Sunlamps alternated with fluorescent Blacklamps extends the spectral region covered to somewhat longer wavelengths.

The combination of fluorescent Sunlamps alternated with fluorescent Blacklamps was the arrangement used in the photodegradation studies reviewed previously. In that review, we requested information on how the arrangement compared to natural sunlight. The information in this article satisfies our concern.

Conclusions:

We can now conclude that: Baytan photodegrades with half-lives of 36 hours in distilled water and of 17 hours in a photo-sensitized (acetone) solution. Baytan is stable to photolysis on the soil surfaces.

3.2 Soil Adsorption and Desorption of BAYTAN-II®. R.J. Puhl and J.B Hurley. Report No. 66745. December 12, 1978. Revised to include additional data (Appendix D, E). Acc. No. 251244.

This study was reviewed previously. At that time we questioned the use of a 2 hour equilbration time for adsorption and a 1 hour equilibration time for desorption. Appendices D and E, which have the data upon which the choice of times was based, have been added to this report.

These data show that 2 hours is adequate for equilibrium in adsorption studies and that 1 hour is adequate in desorption studies.

Conclusions:

We can now conclude that based on the low adsorption coefficients, Baytan will have a low to moderate potential to bind to soil particles.

4.0 CONCLUSIONS/RECOMMENDATIONS

Our concerns about the photolysis and adsorption/desorption studies have been adequately answered. The photolysis and adsorption/desorption data requirements have been satisfied for Baytan and support the proposed use as a seed treatment on small grains and corn.

EAB has no objections to the registration of Baytan for the proposed use as a seed treatment on small grains and corn. Additional uses of Baytan may necessitate the submission of the waived data requirements of field dissipation, rotational crop and fish accumulation.

Norma Kay Whetzel
January 27, 1984
Review Section No. 1
Exposure Assessment Branch
Hazard Evaluation Division