

FILE COPY

DATE: 11/4/78

To: Product Manager (12)
TS-767

Through: Dr. Gunter Zweig, Chief
Environmental Fate Branch

From: Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 3125-GRG

Chemical: Baygon

Type Product: Technical Baygon

Product Name: Baygon 70% Concentrate

Company Name: Chemagro

Submission Purpose: Technical product

Activated Sludge Test.

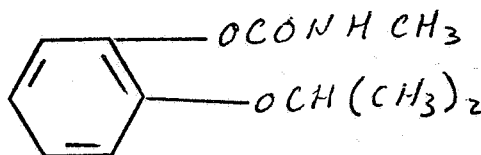
Date in: 9/1/78

Date out: 11/4/78

1.0 Introduction

On April 21, 1977, Frank Sanders, Product Manager, requested Chemagro Agriculture Div. to study the effect of Baygon 70% Concentrate on the activated sludge treatment process. The results of the study are documented in Report #66066 (file symbol 3125-GRG).

Baygon is 2-(1-methylethoxy) phenol methyl carbamate;



Sludge metabolism was conducted in accordance with Soap and Detergent Association Test Procedure and Standards.

Other environmental reviews of this product are:

3125-ETE, 3125-ETG	6/6/74
3125-GNA	8/31/75
3125-GNA	1/15/76
5719-AA	8/3/76
6720-EAU	8/4/76
475-173	2/3/77
475-173	2/17/77
3125-121, 121, 146, 214 and GNA	9/21/77

2.0 Directions for Use

Baygon is a registered insecticide approved for various insects. This submission does not include a label. Hence, it is presumed for technical product use only.

3.0 Discussion of Data

The possible effect of Baygon on sewage treatment plants was tested using small scale sewage aeration chambers in which the concentration of Baygon was increased from 0.1

to 100 ppm over a 10 day period. The activated sludge was obtained from a sewage treatment plant that receives waste water from both industrial and domestic sources.

As reported, the nature of the sludge was not affected by the addition of Baygon. No difference was observed in settling behavior and color between the control sludge and sludge treated with Baygon. It is also reported that no changes due to Baygon were evident in the total solids, or in the dissolved oxygen and pH. (Reference made to tables 5, 6, and 7.) Radiolabeled Cl^{14} -Baygon, when tested in one of the aeration chambers, was found to exist predominantly in the supernatant: 96.7% in supernatant, 3.3% in solid.

Approximately 94% of the residue in the supernatant fractions was shown to be Baygon. Small amounts (2% combined) of ortho-hydroxy Baygon (o-hydroxy-N-Methyl-phenyl carbamate) and Isopropoxy phenol were detected.

Conclusion

Based on the reported results of this study, Baygon and its degradates appear to have minimal or no effect on the activated sludge treatment process at pH range 6.5 - 7 and sludge temperature between 16° and 21°C. If it is ever discharged into municipal systems, Baygon for the most part will end up undegraded into the aquatic environment. No inhibition of the treatment system will occur under the test conditions and up to 240 ppm of the chemical.

4.0 Recommendation

The activated sludge data indicates that Baygon would pass through a wastewater treatment system and be discharged into the aquatic environment. The environmental fate of Baygon is known from other studies previously reviewed.

Baygon was registered and approved for use in municipal wastewater treatment plants without being routed to EC (now EFB) for environmental fate review. We defer to EEB for their opinion if additional studies are needed for this technical product and also wastewater treatment use.

Madeline Nawar 1/28/78
Madeline Nawar
Review Section #1
Environmental Fate Branch

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