

US EPA ARCHIVE DOCUMENT

Shaughnessy No.: 123301

Date Out of EAB: JAN 27 1986

To: H. Jacoby  
Product Manager 21  
Registration Division (TS-767)

From: Samuel M. Creeger, Chief *SMC*  
Review Section #1  
Exposure Assessment Branch  
Hazard Evaluation Division (TS-769)

Attached, please find the EAB review of...

Reg./File #: 359-706

Chemical Name: fosetyl-Al

Type Product: fungicide

Product Name: Aliette

Company Name: Rhone-Poulenc, Inc.

Submission Purpose: New use on turf.

Date Received: 7/2/85 Action Code(s): 315

Date Completed: JAN 27 1986 EAB #(s) : 5749

days: 0.5

Deferrals to: \_\_\_\_\_ Ecological Effects Branch  
\_\_\_\_\_ Residue Chemistry Branch  
\_\_\_\_\_ Toxicology Branch

Monitoring study requested by EAB:

Monitoring study voluntarily conducted by registrant:

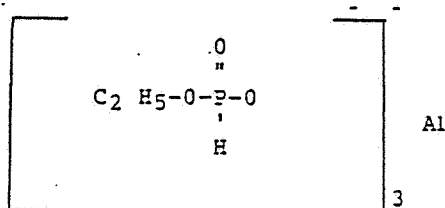
1. CHEMICAL:

Common name: Fosetyl-Al

Chemical name: Aluminum tris(O-ethyl phosphonate)

Trade name: Aliete - 80% WP

Chemical Structure:



Physical/Chemical Properties: see EAB one-liner (attached)

2. TEST MATERIAL: N/A

3. STUDY/ACTION TYPE:

Rhone-Poulenc Inc. is seeking approval of a proposed label amendment to permit use of Alliete® on turf.

4. STUDY IDENTIFICATION: N/A

5. REVIEWED BY:

Debra Edwards, Ph.D.  
Review Section 1/EAB/HED/OPP

*Debra Edwards*  
JAN 27 1986

6. APPROVED BY:

Samuel M. Creeger, Chief  
Supervisory Chemist  
Review Section 1/EAB/HED/OPP

*Sam M Creeger*  
JAN 27 1986

7. CONCLUSIONS:

According to the Registration Standard for fosetyl-Al, the following environmental fate data requirements for purposes of registration have been met: hydrolysis; photolysis in water, soil, and air; aerobic soil metabolism; and leaching and adsorption/desorption. The fish accumulation data requirement was waived, based on the low  $K_{ow}$  ( $1.7 \times 10^{-3}$  to  $5.2 \times 10^{-3}$ ) and the short  $t_{1/2}$  in aerobic soil (1-1 1/2 hours). Also, the field dissipation data requirement was waived, based on the short  $t_{1/2}$  found in the aerobic soil metabolism study. The reviewer does <sup>not</sup> extend the decision to waive the field dissipation study with regard to this new use on turf. Fosetyl-Al is stable to hydrolysis and photolysis, and laboratory soil mobility studies indicate a high potential for leaching

(refer to EAB one-liner - attached to this review). Therefore, fosetyl-Al may leach below the zone of soil microbial activity, where it may persist and be available for leaching to groundwater. No additional data accompanied the present label amendment request.

8. RECOMMENDATIONS:

To permit a complete EAB assessment of the proposed terrestrial nonfood/domestic outdoor use, the registrant must submit field dissipation data. Field dissipation studies for citrus-growing regions have been requested in a previous review, dated 1/24/86. Thus to support the present request, a field dissipation study from one turf location, such as a golf course or sod farm, is required. The registrant is encouraged to submit test protocol to the Agency for comment before initiating the field study.

9. BACKGROUND:

Introduction:

Rhone-Poulenc Inc. is seeking to amend the registration of Alliete (80% WP) by adding a use on turf (golf courses, sod farms, and other turf areas).

Directions for use:

Alliete (80% WP) is to be used on common turfgrasses for control of Pythium blight. Foliar sprays are to be made at 3.2 or 6.4 oz ai/1-5 gal/1000 ft<sup>2</sup> every 14 (low rate) or 21 (high rate) days.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: N/A

11. COMPLETION OF ONE-LINER: No new data submitted.

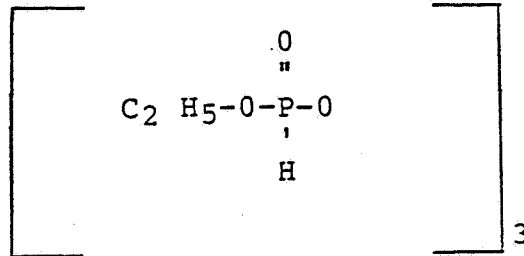
2. CBI APPENDIX: No CBI appendix.

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COMMON NAME: Fosetyl-Al TYPE PESTICIDE: Fungicide

CHEMICAL NAME: Aluminum tris (0-ethyl phosphonate)

STRUCTURE:



Al

3

## CHEMICAL PROPERTIES

Molecular weight: 354 Aqueous solubility: 120g/L (120,000 ppm)Vapor Pressure: no data (fosetyl-Al is a salt)Partition Coefficients:Octanol/water (kow):  $2 \times 10^{-3}$  (range =  $1.7 \times 10^{-3}$  to  $5.2 \times 10^{-3}$ )Soil Adsorption: (Adsorption of Phosphorous acid correlates with % O.M.)

Soil Type:	% soil		Adsorption Coefficient
	Organic matter	ads.	
Sandy Loam	3.6	84	$K = 6.5$ ( $1/N = 0.613$ )
Silt loam	2.3	51	—
Loamy sand	1.3	27	—

Hydrolysis: Soil TLC: Rf = 1 (Helling's mobility class 1 - very mobile)

pH	Half-life	
5	(Stable)	less than 10% degradation in 1 month
9	(Stable)	less than 10% degradation in 1 month

Photolysis

Water:	(Stable)	very little adsorption at 290 nm
Soil Surface:	(Stable)	very little adsorption at 290 nm

Degradation:Lab Studies

Aerobic Soil half-life: 1 - 1 1/2 hrs.  
20 minutes in  
sandy loam

Anaerobic soil half-life: no data

Anaerobic aquatic half-life: 14-40 hours

Fish Bioaccumulation Factors

<u>Species</u>	<u>Tissue</u>		<u>Whole Fish</u>	<u>Depuration half-life</u>
	<u>Edible</u>	<u>Viscera</u>		
Bluegill	No data	No data	No data	No data
Catfish	No data	No data	No data	No data

Found in Ground Water? No data

Established Reentry Internal: N/A

Rotational Crop Restrictions: No data

Summary Comments: Fosetyl-A1 is degraded by soil microbes. The first aerobic degradates are ethanol and phosphorous acid; the maximum half-life was 1 1/2 hours. Degradation by hydrolysis or photolysis will be relatively non-existent.

References

Exposure Assessment Branch Files

Updated (Anaerobic aquatic half-life) on 1/21/86 by D. Edwards