

Shaughnessy No. 123301

Date out of EFGWB: NOV - 3 1988

TO: L. Rossi  
Product Manager #21  
Registration Division (TS-767C)

FROM: Emil Regelman, Supervisory Chemist  
Environmental Chemistry Review Section #2  
Environmental Fate and Groundwater Branch/EFED (TS-769C)

THRU: Henry Jacoby, Acting Chief *Henry Jacoby*  
Environmental Fate and Groundwater Branch  
Environmental Fate and Effects Division (TS-769C)

Attached is the EFGWB review of:

Reg./File #: 264-467

Chemical Name: Aluminum tris (O-ethyl phosphonate)

Common Name: Fosetyl-Al

Product Name: ALIETTE Fungicide

Type of Product: Fungicide

Company Name: Rhone-Poulenc Ag Company

Purpose: Review of petition to amend the label for ALIETTE  
Fungicide to allow foliar use on non-bearing pome fruit  
(eg., apples and pears) and stone fruit trees

Date Received: 7/15/88 Action Code: 180

Date Completed: 11/2/88 EFGWB #: 90029

Monitoring Study Requested:        Total Reviewing Time: 0.5

Monitoring Study Volunteered:       

Deferrals to:        Ecological Effects Branch

       Residue Chemistry Branch

       Toxicology Branch

1. CHEMICAL:

Common Name: Fosetyl-Al

Chemical Name: Aluminum tris (O-ethyl phosphonate)

Trade Name: ALIETTE Fungicide

Type of Product: Fungicide

Company Name: Rhone-Poulenc Ag Company

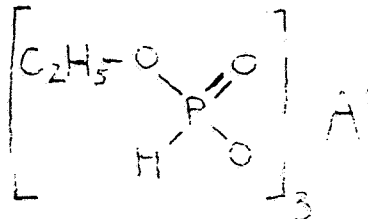
Chemical Structure:

Molecular Formula:  $C_6H_{18}AlO_9P_3$

Molecular Formula: 354

Physical State: White crystalline solid

Aqueous Solubility: 120 g/L at 20°C



2. TEST MATERIALS

Not applicable

3. STUDY/ACTION TYPE:

Request to amend label specified uses for ALIETTE Fungicide to include foliar use on non-bearing pome fruit (eg., apples and pears) and stone fruit trees.

4. STUDY

See directly above. Received by OPP 7/15/88.

5. REVIEWED BY:

Henry Nelson, Ph.D., Chemist

Environmental Chemistry Review Section #2

Environmental Fate and Groundwater Branch/EFED

Date: 11/2/88

6. APPROVED BY:

Emil Regelman, Supervisory Chemist

Environmental Chemistry Review Section #2

Environmental Fate and Groundwater Branch/EFED

Date:

NOV - 3 1988

7. CONCLUSIONS

Based upon a review of environmental fate data and the current registration of ALIETTE for use on other terrestrial food crops at comparable application rates and frequencies, EFGWB concurs with amending the label for ALIETTE to allow foliar application to non-bearing pome fruit and stone fruit trees at the maximum application rates and frequencies specified in the proposed amendment (see Section 9).

8. RECOMMENDATIONS

Please inform the registrant of the conclusions listed above and send them a copy of the review.

9. BACKGROUND

According to the most recent label for ALIETTE, it is currently registered for use as a foliar spray on the following terrestrial food crops at the maximum application frequencies and rates indicated in the parentheses: pineapples (4 applications/yr at 3.75 lbs ai/acre; citrus bearing trees (4 applications/yr at 5.0

lbs ai/acre); non-bearing citrus trees (4 applications/yr at 5.0 lbs ai/acre).

According to the registration standard for fosetyl-Al (the active ingredient in ALIETTE), all data requirements for the use of fosetyl-Al on terrestrial food crops have either been satisfied or waived as follows:

(1) Satisfied:

- 161-1 Hydrolysis
- 161-2 Photodegradation in Water
- 161-3 Photodegradation on Soil
- 161-4 Photodegradation in Air
- 162-1 Aerobic Soil Metabolism
- 162-2 Anaerobic Soil Metabolism (satisfied by an aquatic anaerobic metabolism study)
- 163-1 Leaching and Adsorption/Desorption

(2) Waived:

- 163-2 Laboratory Volatility
- 163-3 Field Volatility
- 164-1 Field Soil Dissipation
- 164-5 Long Term Field Soil Dissipation
- 165-1 Confined Accumulation in Rotational Crops
- 165-2 Field Accumulation in Rotational Crops
- 165-4 Laboratory Accumulation in Fish

The registrant is requesting an amendment to the label for ALIETTE to allow foliar application to the following:

(1) Non-bearing pome fruit trees at a maximum rate of 5.0 lbs ai/acre a maximum of 4 times/year with a minimum of 60 days between successive applications, or at a rate of 2.5 lbs ai/acre a maximum of 8 times/yr with a minimum of 30 days between successive applications.

(2) Non-bearing stone fruit trees at a maximum rate of 5.0 lbs ai/acre with a minimum of 60 days between successive applications. Although no maximum frequency of application is included in the proposed label amendment, a minimum of 60 days between successive applications corresponds to a maximum application frequency of 6 times/yr.

10. DISCUSSION

EFGWB concurs with amending the label for ALIETTE to include foliar application to non-bearing pome fruit and stone fruit trees for the following reasons:

(1) The proposed maximum application rate (5 lbs ai/acre) and maximum annual application (20 lbs ai/yr) are comparable to those listed in Section 9 for the registered use of ALIETTE on pineapples, citrus bearing trees, and non-bearing citrus trees.

(2) All of the data requirements for the registration of Fosetyl-Al (the active ingredient in ALIETTE) for terrestrial food crop use have either been satisfied or waived as listed in Section 9.

(3) Due to a high aqueous solubility (120 g/L), a high susceptibility to leaching (soil TLC  $R_f = 1$ ), and stability to abiotic hydrolysis (none detected over a 30 day period at pHs 5 to 9), fosetyl-Al could conceivably contaminate groundwater occasionally (particularly in areas with shallow unconfined aquifers and in cases where an unexpected heavy rainfall closely succeeds application). However, fosetyl-Al is reported to undergo rapid aerobic and anaerobic degradation to non-toxic degradates in soil (reported aerobic half-lives of less than 3 hrs in 4 different soils and reported anaerobic aquatic half-lives of 40 hrs and 14 hrs in 2 soil/water systems). In addition, the proposed amendment label is for dilute foliar rather than soil application, application prior to any forecasted severe rainfall event is unlikely, and the reported acute and chronic toxicity of fosetyl-Al is low. Therefore, it is unlikely that any contamination of groundwater by fosetyl-Al due to the foliar application of ALIETTE to non-bearing pome fruit and stone fruit trees at the proposed maximum application frequencies and rates would be significant with respect to potential toxicity.

11. COMPLETION OF ONE-LINER

Not applicable.

12. CBI INDEX

Not applicable