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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

9-9-93

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Chem. No. 129011
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EFGWB Nos: 92-1346, 92-1362

MEMORANDUM

SUBJECT: Fenbuconazole - Experimental Use Permits

TO: Cynthia Giles-Parker, Product Manager 22
Fungicide-Herbicide Branch
Registration Division (H7505C)

THRU: Henry M. Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Paul J. Mastradone, Ph.D., Chief
Environmental Chemistry Review Section 1
Environmental Fate and Ground Water Branch

FROM: Arnet W. Jones, Agronomist
Environmental Chemistry Review Section 1
Environmental Fate and Ground Water Branch

Henry M. Jacoby
9/9/93

Paul J. Mastradone

Arnet W. Jones

Fenbuconazole is a new fungicide presently proposed for use on pecans and stone fruits (apricots, cherries, nectarines, peaches, plums, and prunes). New uses have been proposed for almonds, apples, bananas, ornamentals (greenhouse and field-grown), and wheat. The EFGWB science chapter for the Fenbuconazole New Chemical Registration Standard was submitted to RD on 02/18/93. EFGWB received requests to review proposed experimental use permits (EUPs) for the use of fenbuconazole on apples and wheat.

Conclusions

1. With the exception of terrestrial field dissipation (164-1) and accumulation in confined rotational crops (165-1), all environmental fate data requirements needed to support registration for terrestrial food, terrestrial nonfood, and greenhouse nonfood uses have been fulfilled.
2. All data requirements needed to support an EUP on apples have been fulfilled (hydrolysis [161-1], aerobic soil metabolism [162-1], leaching/adsorption/desorption [163-1], and fish accumulation [165-4]).
3. With the exception of accumulation in confined rotational crops (165-1), all environmental fate data requirements needed to support the EUP for wheat have been fulfilled. This study is needed to assess the potential for fenbuconazole residues to accumulate in crops which follow wheat in a crop rotation. Responsibility for reviewing rotational crops studies has



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been transferred from EFGWB to HED. A confined rotational crops study was submitted to EFGWB and has been returned to RD for transmittal to HED.

Environmental Fate Assessment

Fenbuconazole is moderately persistent with surface degradation half-lives ranging from 79 days for soil photolysis to 367 days for aerobic soil metabolism. Degradation of fenbuconazole at depth will also occur slowly as the compound was stable to hydrolysis at Ph 5, 7, and 9 and degraded in soil under anaerobic conditions with half-lives of 451-655 days. Fenbuconazole and its degradates appear to be slightly mobile to immobile in soil with K_d 's ranging from 5 to 115. The principal route of dissipation appears to be adsorption to soil, with increased adsorption associated with higher soil organic matter content. Because of its adsorption to soil, the potential for fenbuconazole to leach to ground water appears to be slight. However, the potential to contaminate ground water may be greater at vulnerable sites, i.e. where soils are low in organic matter where ground water is relatively close to the surface. Mineralization to CO_2 and soil photolysis appear to be less important routes of dissipation.

Because of its persistence in the field, EFGWB believes that fenbuconazole residues may accumulate in soil with repeated applications over multiple growing seasons. Its persistence and relative lack of mobility indicate that it could reach surface water via runoff following rainfall or irrigation. If its use is extended to field crops, fenbuconazole residues may be available for uptake by rotated crops because of the persistent nature of the compound. Fenbuconazole did not bioaccumulate in bluegill sunfish (maximum bioaccumulation factors were 170X, 50X, and 330X in whole fish, fillet, and viscera tissue, respectively) and 95-98% of accumulated residues were eliminated during a 14-day depuration period.

Background

The experimental programs for apples and wheat are designed to: (1) confirm product performance; (2) define optimum use rates, application timings and number of applications needed for disease control; and (3) demonstrate product performance for chemical dealers and university and extension personnel.

The EUP for apples proposes the annual use of 3969 lb of formulated product (905 lb a.i.) on 905 acres. The EUP is requested for a 2-year period with an extension of 3 years if full registration has not been granted within the original 2-year period. The proposed experimental program will be carried out in 25 states using approximately 175 apple growers. The average size of each trial will be 5 acres.

The experimental program for wheat will use approximately 175 grower trials on 3620 acres in 32 states. The average size of each trial will be 20 acres. A maximum of 679 lb a.i. will be used annually during the two-year program.



United States Environmental Protection Agency
Office of Pesticide Programs (H7505C)
Washington, DC 20460

**Application for an Experimental Use Permit To Ship
and Use a Pesticide for Experimental Purposes Only**

OPP Identifier Number

002506

1. Type of Application

- New Amendments (See No. 11)
- Extension (Give Permit Number below)

2. EPA Company Number

707-EUP-REI

Permit Number

3. Name and Address of Firm/Person to Whom the Experimental Use Permit is to Be Issued (Include ZIP Code) (Type or Print)

Rohm and Haas Company
Independence Mall West
Philadelphia, PA 19105

4. Name and Address of Shipper (If shipment is intended and if different from applicant's name and address) (Include ZIP Code) (Type or Print)

5. Name of Product

RH-7592 2F Experimental Fungicide

6. Is Product Registered with EPA?

- Yes (Give registration number or file symbol below).
 - No
- Reg. No. 302-EGR.
File Symbol _____

7. Total Quantity of Product Proposed for Shipment/Use.

A. 3969 Pounds of formulated product per year
B. 905 Pounds of active ingredient per year

8. Acreage or Area to be Treated.

905 acres per year

9. Proposed Period of Shipment/ Use.

From date of approval for (2) years and an extension for (3) three additional years if a full registration has not been granted. (See

10. Places from which Shipped

Rohm and Haas Co.
Route 13 and 413
Bristol, PA 19007

11. Briefly explain (attach separate sheet if necessary)

administrative material submitted with application.

Experimental use on Apples as a crop protectant fungicide

12. Specify the name & telephone no. of the individual most familiar with this application who can be contacted directly, if necessary to process this application.

Richard D. Costlow, Ph.D., D.A.B.T.
215-592-3531

13. Signature of applicant or authorized firm representative

14. Title

Product Registration Manager

15. Date Signed

8/12/92

Certification

This is to certify that food or feed derived from the experimental program will not be used or offered for consumption or sale for consumption except by laboratory or experimental animals if illegal residues are present in or on such food or feed.

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Below for EPA Use Only

In any correspondence on this application refer to this number:

Received by EPA-OPP Registration Division Washington, DC 20460

Normal review time indicates that processing of this application should be completed by (date)

Name of EPA Contact

Telephone No.

ROHM AND HAAS COMPANY

INDEPENDENCE MALL WEST

PHILADELPHIA, PENNSYLVANIA 19105



RH-7592 2F Fungicide
Application for Experimental Use Permit
Use on Apples
EPA Experimental Use Permit No. 707-EUP-_____

SECTION G

Proposed Experimental Program

August, 1992

RIN 3427-95

Page is not included in this copy.

Pages 5 through 33 are not included.

The material not included contains the following type of information:

- Identity of product inert ingredients.
 - Identity of product impurities.
 - Description of the product manufacturing process.
 - Description of quality control procedures.
 - Identity of the source of product ingredients.
 - Sales or other commercial/financial information.
 - A draft product label.
 - The product confidential statement of formula.
 - Information about a pending registration action.
 - FIFRA registration data.
 - The document is a duplicate of page(s) .
 - The document is not responsive to the request.
-

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.
