

US EPA ARCHIVE DOCUMENT

111601

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DATE: IN \_\_\_\_\_ OUT \_\_\_\_\_ IN 12/20/77 OUT 1/10/78 IN \_\_\_\_\_ OUT \_\_\_\_\_  
FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. 707-EUP-91

PERMISSION OR EXP. PERMIT NO. 8 G2028

DATE DIV. RECEIVED \_\_\_\_\_

DATE OF SUBMISSION \_\_\_\_\_

DATE SUBMISSION ACCEPTED \_\_\_\_\_

TYPE PRODUCT(S): I, D, (H) F, N, R, S \_\_\_\_\_

PRODUCT MGR. NO. Zink

PRODUCT NAME(S) Goal 2E

COMPANY NAME Rohm and Haas Co.

SUBMISSION PURPOSE EUP for cotton

CHEMICAL & FORMULATION 2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl) benzene (RH2915)

24  
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1.0 Introduction

1.1 Goal 2E, RH-2915, 2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-trifluoromethyl benzene, oxyfluorene.

1.2 Percent Active: 23.5%

1.3 Other Reviews

PP #5G1581,	4/7/75
707-EUP	11/7/75
707-EUP-82 & 83	1/9/76
707-EUP-82	1/27/77

1.4 The proposed two-year program for cotton involves application of 386 lbs a.i. on a yearly basis to 1025 acres in 10 states. The post-directed program will include the western cotton areas of Arizona and California and the southern areas of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Arkansas, Louisiana, and Texas.

2.0 Directions for Use

2.1 Goal 2E is a selective herbicide suggested for trial use in cotton weed control as a post-directed application.

2.2 Western Cotton (Arizona, California)

Goal is suggested as a layby application for evaluation in the control of the following weeds in cotton. If weeds are present at application, they should not be past the early postemergence stage of one to two inches in height.

2.3 Before Spraying:

1. Make certain that the minimum cotton plant height is at least 16 inches tall.
2. Select calm periods to minimize spray drift.
3. Have level, well shaped beds, that are relatively free of clods.
4. Plan your irrigation schedule so that water is available within two weeks after the Goal treatment so as to obtain the greatest benefit of preemergence activity.
5. Do not spray in cotton fields within 60 days of harvest.

25  
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2.4 Broadcast Rate Per Acre

State	Soil *Type	Quarts GOAL 2E	Gallons Water	Plant Height	Weed Height
Arizona and California	Sand Loam Clay	1	30 to 60	15 to 18 in.	Less than 2 in.

\*In areas where soils are known to crack upon drying, we suggest that GOAL be shallow incorporated (1 1/2 to 2 inches) with a rolling Lillston. If combining Goal with TREFLAN, then a similar shallow soil incorporation must be a part of the application.

2.5 GOAL 2E + TREFLAN 4E - TANK MIXTURE

In cotton fields requiring additional grass control at layby, a tank mixture of 1 quart of GOAL 2E plus 1 pint of TREFLAN 4E is suggested as a combination treatment. This tank mixture should be applied exactly like GOAL alone except a shallow 1 1/2 to 2 inch incorporation must be an immediate part of the application.

2.6 Southern Cotton

Before Spraying:

1. Make certain that the minimum cotton plant height is at least 8 to 12 inches tall.
2. Select calm periods to minimize spray drift.
3. Check your spray equipment. It should deliver 20 to 30 gallons of spray per acre on a broadcast basis while delivering 0.5 to 1 quart of GOAL.
4. Do not spray in cotton fields within 60 days of harvest.

2.7 Tank Mixture with MSMA Herbicide

GOAL is suggested as a part of a tank mixture with MSMA. When making the tank mixture, it is suggested that GOAL be applied at the 0.5 to 1 quart per acre rate (broadcast). MSMA should be used at the rate of 1 to 2 pounds active per acre (braodcast).

26  
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This product is compatible with GOAL. The order of mixing or addition of MSMA to GOAL is not important, however, the products should be added to a partially filled spray tank with agitators or bypass open. Carefully follow the Cautions listed on the MSMA container label.

2.8 This product is toxic to fish and birds. Keep out of lakes, ponds or streams.

2.9 Do not reuse empty container. Destroy by perforating or crushing. Bury waste and container in a landfill away from water supplies.

### 3.0 Discussion of Data

No new data has been submitted.

### 4.0 Conclusion

Data in our files indicate that this compound is extremely persistent in soil and water and is not degraded by micro-organisms. Rotational crop studies at one-year interval show negligible residues in cotton fiber after 169 days planting.

### 5.0 Recommendations

5.1 We concur with the proposed use under this EUP only, if crops will not be rotated less than one year after treatment. Rotational crop studies submitted support those crops that will be rotated after one year. If crops will be rotated immediately after harvest of the crop in the treated area, the pesticide must be aged aerobically in a sandy loam soil for 120 days, then planted to a root crop, small grain, and a vegetable. A crop residue study under actual use conditions is required for those practices where a subsequent crop is treated with the same active ingredient as the initial crop. This study is not required for a cover crop if typically plowed under and not grazed. A crop residue study under actual field use conditions is required when water from treated areas, including holding ponds or effluent and other discharges, is typically used to irrigate crops.

27  
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- 5.2 Tank mix studies will be needed to support registration of the proposed tank mixes. The following is an acceptable protocol for tank mix studies.

A laboratory or field study comparing dissipation in soil between a mixture of that of individually applied active ingredients is required. Pesticides are applied individually and as a mixture at the recommended rates to light and heavy textured soils. In the field, sample to a depth of 6 inches; and in the laboratory, sample to the bottom of the container until a residue decline curve is established, or for a maximum test duration of six months.

- 5.3 Environmental Chemistry data, as given in Section 3 of the Regulations, will be required to support registration. (See attached sheet for data requirements for different use patterns.) The data submitted or references have not been reviewed or validated to support any future registrations.

*R. E. Ney 2/28/78*

*K. Sampson 2/28/78*

Ronald E. Ney, Jr.

1/10/78

Karen Sampson

1/9/78

EC, EEE

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Table 1 - Summary of environmental chemistry data requirements by intended use pattern

Data Require. Use Patterns	Terrestrial Uses				Aquatic Uses				Terrestrial/Aquatic Uses		To Support Formulation of Product	
	Domestic Outdoor	Greenhouse	Tree Fruit-Nut Crop	Field-Veg. Crop	Aquatic Food Non-Crop	Aquatic Non-Crop	Forest	Direct Discharge	Indirect Discharge	Wastewater Treatment		Manufacturing Use Product
<u>PHYSICO-CHEMICAL DEGRADATION</u>												
Hydrolysis	X	X	X	X	X	X	X	X	X	X	X	X
Photodegradation			X	X	X	X	X	X				X
<u>METABOLISM</u>												
Aerobic soil	X	X	X	X	X	X	X	X				X
Anaerobic soil												X
Anaerobic aquatic												X
Aerobic aquatic												X
Effects of microbes on pesticides			X	X	X	X	X	X				X
Effects of pesticides on microbes			X	X	X	X	X <sup>a</sup>	X				X
Activated sludge									X	X	X	X
<u>MOBILITY</u>												
Leaching			X	X				X <sup>b</sup>				X
Volatility												X
Adsorption					X	X	X	X				X
Water dispersal					X	X	X	X				X
<u>FIELD DISSIPATION</u>												
Soil			X	X	X	X	X	X				X
Water					X	X	X <sup>c</sup>	X				X
Ecosystem (X <sup>d</sup> combined study with X <sup>a</sup> , X <sup>b</sup> , X <sup>c</sup> )								X <sup>d</sup>				X
<u>ACCUMULATION</u>												
Rotational crop			X	X	X	X	X	X				X
Irrigated crop					X	X	X	X				X
Fish			X	X	X	X	X	X				X

6 29

Data requirements cited in paragraphs (c) (4) (iii) (C), (VI) and (VII); (c) (5) (4) (i), (d), and (e) of Section 162.79 are not included in Table