

US EPA ARCHIVE DOCUMENT

REVIEW SUMMARY

J.W. AKERMAN  
ECOLOGICAL EFFECTS BRP  
REVIEW SUMMARY

111601

Chemical trade name RH-2915  
Common name 7  
Chemical 2-chloro-1-((3-ethoxy-4-nitrophenyl)-4-trifluoromethyl)benzene  
Company \_\_\_\_\_  
Submission TEMP PERMIT 707-EXP PETITION 5615 REGISTRATION \_\_\_\_\_  
Date submitted 12-27-74 Date received 2-5-75

Type of chemical Herbicide  
Use Preemergence - soybeans ; postemergence - corn

Data submitted for review

Environmental safety:

|                         |               |
|-------------------------|---------------|
| Mammal LD <sub>50</sub> | <u>✓</u>      |
| Mammal chronic          | <u>✓</u>      |
| Fish                    | <u>✓</u>      |
| Bird                    | <u>✓</u>      |
| Shrimp, crab, oyster    | <u>      </u> |
| Other                   | <u>      </u> |

Environmental chemistry (70-15)

|              |                                 |
|--------------|---------------------------------|
| Fish residue | <u>No</u>                       |
| Other        | <u>Not available for review</u> |

Chemical

Conclusions:

① Bermik Program

A. Soybeans (219 gal)

- 438<sup>#</sup> a.i. for 29 states; total of 1270 acres.
- Reemergence applic. at 0.125 to 0.5<sup>#</sup> a.i./acre; 1 application.
- Note: combinations with Treflan + Lasso on label.
- Objectives: to obtain efficacy, toxicity, residue, fat content, etc. data

B. Corn (30 gal)

- 40<sup>#</sup> a.i. for witchweed control in N. + S. Carolina.
- Reemergence applic. at 0.5 - 2.0<sup>#</sup> a.i./acre; 1 application.

② NO EFFECT LEVELS:

- A. Bluejills - 0.056 ppm
- B. Rainbow - 0.140 ppm
- C. Mallard - appears to be 4000 ppm.
- D. Bobwhite - appears to be 100 or less ppm.
- E. Rats (Feeding Study) - 1,000 ppm
- F. Dogs (" " ) - 400 ppm.

Note: Did not see env. chem. data. Get info from FRANK Schenck.  
Photodegradation + fish residue studies must be submitted according to →

[ Note: Should find out what form of Amiben they will use if they seek this combination on soybeans. ]  
Recommendations

Used same comment as Jim's RL comment of 11-26-74.  
(but included observations in com.) (see RA-2512)  
H/ok

Note: Labels have same cautions as Jim has down (Nov. 25, 1974) and  
Also modified w-l. on soybean label.

Chemical 2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-trifluoromethyl benzene

Citation Rohm & Haas

Reg. No. \_\_\_\_\_

Exp permit no. 707-EXP

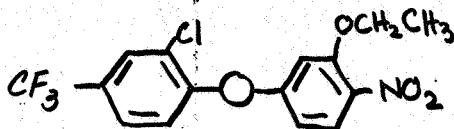
Section no. 5615

Submission date 12-27-74

Accession NO \_\_\_\_\_

Chemistry

Structure



Chemical characteristics this chemical is a diphenyl ether.

Formulation (s)

|       |              |                  |
|-------|--------------|------------------|
|       | 24.3% a.i.   | } = RH-2915 2EC. |
|       | 75.7% inerts |                  |
| TOTAL | 100.0%       | (2# a.i./gal.)   |

Use

Herbicide:

- ① preemergence - soybeans; apply at 0.125 - 0.50# a.i./acre.
- ② postemergence - Corn to control witchweed (N. + S. Carolina)  
- Apply at 0.5 to 2.0# a.i./acre

Chemical 2-Chloro-1-(3-ethoxy-4-nitrophenoxy)-4-trifluoromethyl benzene

Citation Rohm + Haas

Reg. No. \_\_\_\_\_

Exp permit no. 767-EXP

Petition no. 5615

Accession NO

Submission date 12-27-74

| ORGANISM          | TEST  | LD <sub>50</sub>  | LC <sub>50</sub> | LC <sub>50</sub> Aquatic |          |       | TEST MATERIAL |
|-------------------|---|---|------------------|--------------------------|----------|-------|---------------|
|                   |   |   | Dietary          | 24 hr                    | 48 hr    | 96 hr |               |
| Rat ♂♂            | acute oral  | >5,000 mg/kg  |                  |                          |          |       | technical     |
| Dog ♀♀            | acute oral  | >5000 mg/kg   |                  |                          |          |       | technical     |
| Rabbits           | acute dermal  | >10,000 mg/kg   |                  |                          |          |       | technical     |
| Rats              | acute oral  | 5.80 ± 0.21 gm/kg — 24 hours<br>5.05 ± 0.11 gm/kg — 14 days |                  |                          |          |       | 24.3% a.i     |
| Rabbits ♂♂        | acute dermal  | >3,000 mg/kg  |                  |                          |          |       | 54.3% a.i     |
| *① Bluegills      | Dynamic   | (No EFFECT LEVEL = 0.056 ppm)                               |                  | >0.32 ppm                | 0.2 ppm  |       | technical     |
| *② Rainbow trout  | Dynamic   | (No EFFECT LEVEL = 0.140 ppm)                               |                  | >0.75 ppm                | 0.41 ppm |       | technical     |
| *③ Mallard Duck   | 8-day dietary   |   |                  | >4,000 ppm               |          |       | technical     |
| *④ Bobwhite Quail | 8-day dietary   |   |                  | 390 ± 22.70 ppm          |          |       | technical     |
| *① Bluegills      | ① 95% confidence limits for 0.2 ppm = 0.130 - 0.310 ppm<br>② Incipient LC <sub>50</sub> = 0.2 ppm (95% c.i. = 0.130 - 0.310 ppm)<br>③ No EFFECT LEVEL = 0.056 ppm.    |   |                  |                          |          |       | technical     |
| *② Rainbow trout  | ① 95% confidence limits for 0.41 ppm = 0.310 - 0.560 ppm<br>② Incipient LC <sub>50</sub> = 0.260 ppm (95% c.i. = 0.210 - 0.310 ppm)<br>③ No EFFECT LEVEL = 0.140 ppm. |   |                  |                          |          |       | technical     |
| *③ Mallard Duck   | Dietary LC <sub>50</sub> = 47.00 ± 3.05 ppm   |   |                  |                          |          |       | technical     |
| *④ Bobwhite Quail | Dietary LC <sub>50</sub> = 18.30 ± 1.78 ppm   |   |                  |                          |          | ④     | technical     |

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Reg. no. \_\_\_\_\_

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Submission 12-27-74  
DATE

Accession no. \_\_\_\_\_

| ORGANISM                                  | DOSE                     | SYMPTOM/EFFECT   | TEST MATERIAL       |
|---|--------------------------|--|---------------------|
| Rats ♂♂+♀♀<br>90-day feeding Study        | 200, 1,000,<br>5,000 ppm | No Effect Level = 1,000 ppm.<br>No signs of toxicological importance at any level. Postmortem histopathology revealed no important effects except for hepatic centrilobular swelling (at 5,000 ppm) which is believed to be a functional response to some toxic stress.<br>MINIMAL EFFECT LEVEL = 5,000 ppm  | Technical           |
| Dogs ♂♂+♀♀<br>90-Day Feeding Study        | 80, 400,<br>2,000 ppm    | No EFFECT LEVEL = 400 ppm.<br>No alterations of toxicological significance in body wt gain, food consumption, hematology or clinical chemistry at either 80 ppm or 400 ppm levels. The 2,000 ppm level caused significant depression of wt. gain + a slight increase in alkaline phosphatase in both ♂♂ + ♀♀.<br>MINIMAL EFFECT LEVEL = 2,000 ppm. | Technical           |
| Rats<br>mutagenicity<br>Cytogenetic Study |                          | No <del>mutagenic</del> <sup>mutagenic</sup> effects.  | assume<br>Technical |
| Rabbits -<br>Teratology Study             | 5, 25,<br>125 mg/kg/day  | At these dosage levels administered on days 6 through 18 of pregnancy, there was no important incidence of developmental abnormalities.  | Technical<br>5      |

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Citation Rohm + Haas

Reg. No. \_\_\_\_\_

Exp permit no. 707-EXP

Portion no. 5G15

Submission date 12-27-74

Accession NO \_\_\_\_\_

### FATE IN THE ENVIRONMENT

SOIL ① chemical  $t_{1/2}$  life in soil post application is estimated to be ~~approx~~ between 36 to 50 days. 90% dissipation: 125-160 days.  
② Very little leaching beyond surface 1 to 2 inches of soil.

WATER ① Laboratory photolysis studies show that RH-2915 is readily photodegraded.  
② No noticeable hydrolysis at pH's of 5, 7, +9.

PLANT

ANIMAL

# NOTES

RH-2915 Herbicide for Soybeans + Corn

2-4-75

2-chloro-1-(3-ethoxy-4-nitrophenyl)-4-trifluoromethyl benzene  
... 90% a.i.

## A. Proposed Exp. Program for RH 2915 2EC in Soybeans

① - Want 219 gals ( $2^{\#}$  a.i./gal) =  $438^{\#}$  a.i. for 229 states

② - 2 parts to program

① Experiment Station trials -  $58^{\#}$  a.i. (29 gal)

② Grower Trials -  $380^{\#}$  a.i. (190 gal)

- 5-10 acres in size = avg size of grower test

- Total = 1270 acres

## ③ Objectives of Program in Soybeans

- To obtain efficacy, tox., residue, fate in env., etc.

- Note: one objective is to obtain efficacy using tank mixes and/or sequential treatment. Chemicals considered are:

Lasso, Treflan, Amiben, + Paraquat

### NOTE:

Preemergence application in Soybeans

- 0.125, 0.25, 0.38, + 0.5  $^{\#}$  a.i./acre



tree fruit  
Pulled  
11-21-75

## WEEDS CONTROLLED (1.0 to 4.0 quarts per acre)

Annual Sowthistle (*Sonchus oleraceus*)  
Barnyardgrass\* (*Echinochloa* spp.)  
Common Chickweed\* (*Stelaria media*)  
Common Groundsel (*Senecio vulgaris*)  
Common Lambsquarter (*Chenopodium album*)  
Common Purslane (*Portulaca oleraceae*)  
Fiddleneck (*Amsinckia* spp.)  
Horseweed (*Conyza canadensis*)  
Little Mallow (*Malva parviflora*)  
London Rocket\* (*Sisymbrium irio*)  
Prickly lettuce (*Lactuca serriola*)  
Prostrate Knotweed (*Polygonum aviculare*)  
Redmaids (*Calandrinia caulescens*)  
Redroot Pigweed (*Amaranthus retroflexus*)  
Redstem Filaree (*Erodium cicutarium*)  
Shepherdspurse (*Capsella bursa-pastoris*)  
Wild Radish (*Raphanus raphanistrum*)

\*Only partial control by postemergence application.

NOTE: RH-2915 does not control perennial weeds or large established annual weeds by postemergence application.

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