

REVIEW SUMMARY

111601

J. W. AKERMAN
ECOLOGICAL EFFECTS
REVIEW SUMMARY

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 ₅₀	<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>

①

AKERMAN

Chemical

Conclusions:

① Bermik Program

A. Soybeans (219 gal)

- 438[#] a.i. for 29 states; total of 1270 acres.

- Reemergence applic. at 0.125 to 0.5[#] a.i./acre; 1 application.

- Note: combinations with Treflan + Lasso on label.

- Objectives: to obtain efficacy, toxicity, residue, fate in env. & etc. data

B. Corn (30 gal)

- 40[#] a.i. for witchweed control in N. + S. Carolina.

- Reemergence applic. at 0.5 - 2.0[#] a.i./acre; 1 application.

② NO EFFECT LEVELS:

A. Bluegills - 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. Got 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

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

Note: { Labels have same cautions as Jim has shown (Nov. 25, 1974) and
Also modified w-61.10 on soybean label.

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

Citation Rohm & Haas

Reg. No. _____

Exp permit no. 707-EXP

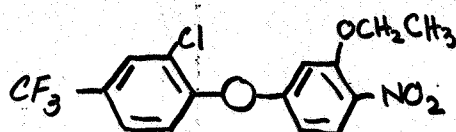
Petition no. 5615

Accession NO _____

Submission date 12-27-74

Chemistry

Structure



Chemical characteristics this chemical is a diphenyl ether.

Formulation (s)

$$\left. \begin{array}{l} 24.3\% \text{ a.i.} \\ 75.7\% \text{ inerts} \end{array} \right\} = \text{RH-2915 2EC.}$$

$$\text{TOTAL } 100.0\% \quad (2\# \text{ a.i./gal.})$$

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

Portion no. 5615

Accession NO

Submission date 12-27-74

ORGANISM	TEST	LD ₅₀	LC ₅₀	LC ₅₀ 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	$5.80 \pm 0.21 \text{ gm/kg} - 24 \text{ hours}$ $5.05 \pm 0.11 \text{ gm/kg} - 14 \text{ days}$					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 $\pm$ 22.70 ppm				technical
*① Bluegills	① 95% confidence limits for 0.2 ppm = 0.130 - 0.310 ppm ② Incipient LC ₅₀ = 0.2 ppm (95% c.i. = 0.130 - 0.310 ppm) ③ NO EFFECT LEVEL = 0.056 ppm.						technical
*② Rainbow trout	① 95% confidence limits for 0.41 ppm = 0.310 - 0.560 ppm ② Incipient LC ₅₀ = 0.260 ppm (95% c.i. = 0.210 - 0.310 ppm) ③ NO EFFECT LEVEL = 0.140 ppm						technical
*③ Mallard Duck	Dietary LC ₅₀ = 47.00 $\pm$ 3.05 ppm						technical
*④ Bobwhite Quail	Dietary LC ₅₀ = 18.30 $\pm$ 1.78 ppm					④	technical

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

Citation Rohm and Haas.

Reg. no.

Exp permit 707-EXP

Ref. no. 5615

Submission 12-27-74
DATE

Accession no.

ORGANISM	DOSE	SYMPTOM/EFFECT	TEST MATERIAL
Rats ♂♂+♀♀ 90-day feeding Study	200, 1,000, 5,000 ppm	No Effect Level = 1,000 ppm. 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. MINIMAL EFFECT LEVEL = 5,000 ppm	Technical
Dogs ♂♂+♀♀ 90-Day Feeding Study	80, 400, 2,000 ppm	No EFFECT LEVEL = 400 ppm. No alterations of toxicological significance in body wgt gain, food consumption, hematology or clinical chemistry at either 80 ppm or 400 ppm levels. The 2,000 ppm level caused significant depression of wgt. gain + a slight increase in alkaline phosphatase in both ♂♂ + ♀♀. MINIMAL EFFECT LEVEL = 2,000 ppm.	Technical
Rats mutagenicity - Cytogenetic Study		No mutagenic ^{mutagenic} effects.	assume Technical
Rabbits - Teratology Study	5, 25, 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 5

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

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 $\frac{1}{2}$ life in soil post application is estimated to be
~~approx~~ between 36 to 60 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, Treplan, 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.