

US EPA ARCHIVE DOCUMENT

FILE COPY

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Date Out EFB: 4/22/80

To: Product Manager (Stone PM-23)
TS-767

Through: Dr. Gunter Zweig, Chief *MTDZ for GZ*
Environmental Fate Branch

From: Review Section No. 1 *im*
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 707-RU0, RLN PP9F2158

Chemical: Sodium-5-[2-chloro-4-(trifluoromethyl)-phenoxy]-2-

nitrobenzoate Blazer, RH-6201, acifluorfen sodium salt

Type Product: Herbicide

Product Name: Blazer 2S and Blazer 2L

Company Name: Rohm and Haas

Submission Purpose: New chemical, registration on soybeans

evaluation of unreviewed cold rotational crop data. Addendum to

the January 3, 1980 Blazer review

ZBB Code:

Date in: April 7, 1980

Date Completed 4/22/80

Deferrals To:

Ecological Effects Branch

Residue Chemistry Branch

Toxicology Branch

1. INTRODUCTION

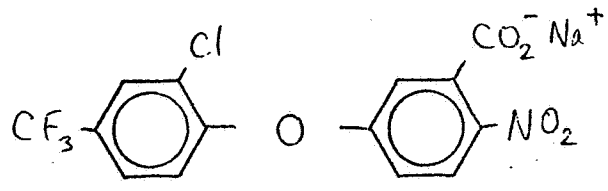
The following was inadvertently not reviewed with the Blazer submission. This material is to be included with the Blazer evaluation of 707-RU0, RLN PP9F2158 dated January 3, 1980.

2.0 DISCUSSION OF DATA

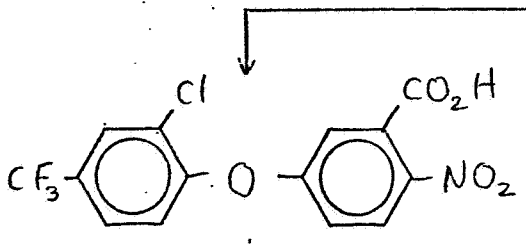
2.1 A Terminal Residue Analytical Method for RH-G201 and its Major Metabolites, technical report no. 34H-78-24, acc. # 097719, tab 14, October 17, 1978.

Plants are extracted with acetonitrile/HCl, partitioned into toluene and evaporated to dryness. The residue is then taken up in solvent and treated with diazomethane. It is then analyzed by GC-EC or further treated with heptafluorobutyric anhydride and then analyzed by GC-EC. See figure 1 following.

Recoveries in soybeans averaged 80-83% at 0.01-0.29 fortifications, and in soil averaged 67-79% at 0.01-1.0 fortification. Recoveries for assorted other crops averaged 96% at 0.01-0.03 fortifications.

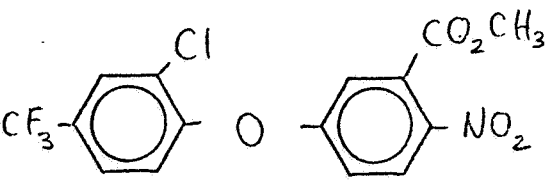


RH-6201

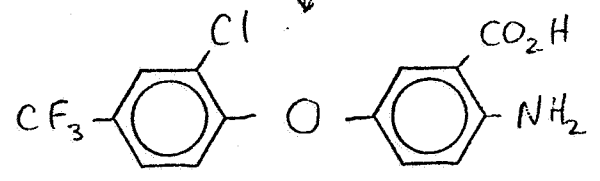


RH-5781

Treatment with diazomethane

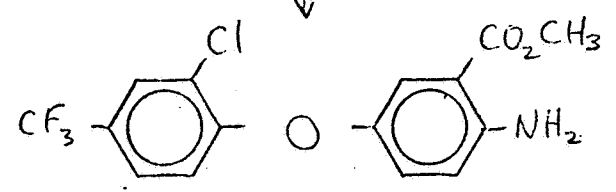


RH-5782



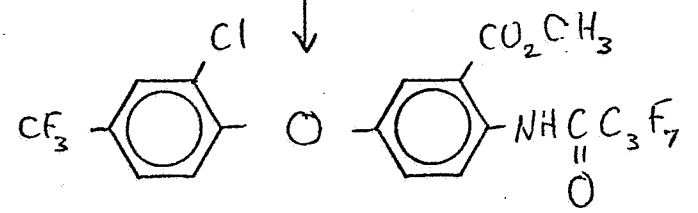
RH-4514

Treatment with diazomethane



RH-6852

Treatment with heptafluorobutyric anhydride



RH-8855

Quantitation by GLC

Fig. 1

2.2 Rotation Crop Detailed Analytical Reports November 15, 1978, acc. #097721, tab 18.

Soybeans were planted, grown to maturity and harvested following standard cultural practices. The soybean plots were treated as recommended with Blazer at 1.0 lb i.a./A, harvested and planted to rotational crops as described below. (Note that the treatment dates and the TPI and TSI figures are according to telecon from the PM team (Jim Stone) even though they may disagree with the figures submitted by the registrant. See the acifluorfen file for copy of the April 9-10, 1980 telecon).

Rotational Crop Residues, ppm

| <u>State</u> | <u>1 lb a.i./A # Applications</u> | <u>Rotational Crop</u> | <u>Treatment Date</u> | <u>TPI*</u> | <u>TSI*</u> | <u>Crop Component</u> | <u>Acid Method</u> | <u>Amine Method</u> |
|--------------|---------------------------------------|------------------------|---------------------------|-------------|-------------|-----------------------|------------------------|-------------------------|
| GA | 1 | Wheat | July 20, 76 | 148 | 350 | Grain | NDR | NDR |
| GA | 1 | Wheat | July 20, 76 | 499 | 700 | Grain | NDR | NDR |
| GA | 1 | Radish | July 20, 76 | 669 | 700 | Root | NDR | NDR |
| GA | 2 | Radish | June 3, 77 | 351 | 382 | Root | NDR | NDR |
| IN | 1 | Wheat | July 2, 76 | 105 | 358 | Grain | NDR | NDR |
| IN | 1 | Carrot | July 2, 76 | 302 | 384 | Root | 0.02 | NDR |
| PA | 1 | Beets | April 24, 76 | 30 | 121 | Root | 0.04 | NDR |
| PA | 1 | Beets | April 24, 76 | 30 | 200 | Root | NDR | NDR |
| PA | 1 | Sorghum | July 6, 76 | 343 | 428 | Grain*** | NDR | NDR |
| PA | 1 | Lettuce | July 6, 76 | 343 | 374 | Head | NDR | NDR |
| PA | 1 | Corn | July 6, 76 | 300 | 374 | Grain | NDR | NDR |

* TPI - treatment to planting interval, days

** TSI - treatment to sampling interval, days

*** per verbal communication from PM team stating only the portions normally eaten by humans were sampled and analyzed (See memo of telecon dated April 9-10, 1980 in the acifluorfen file).

3.0 CONCLUSIONS/RECOMMENDATIONS

3.1 The cold rotational crop data supports the assumption that some of the ^{14}C residues taken up by the crops in the ^{14}C rotational crop studies are incorporated into the natural plant constituents. However, since the hot and cold studies were not conducted with similar treatment to planting and treatment to sampling intervals, complete comparisons of the data cannot be made.

3.2 The data support the following rotational crop restrictions:

Winter wheat may be planted 4 months after treatment. Only the grain portion of the plant may be used for food and/or feed purposes.

Radishes may be planted 9 months after treatment with use of only the root portion for food and/or feed purposes.

Sorghum may be planted 12 months after treatment with use of only the grain for food and/or feed purposes.

Lettuce may be planted 12 months after treatment.

Corn may be planted 10 months after treatment with use of only the grain for food and/or feed purposes.

Carrots and beets may be planted 18 months after treatment with use of only the root portion for food and/or feed purposes.



Samuel M. Creeger
April 10, 1980

Review Section #1
Environmental Fate Branch/HED