



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

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### MEMORANDUM

DATE: January 23, 1981

SUBJECT: Evershield RTU 1010

ND-800020, OR-800096, MN-800019

FROM: Sherell A. Sterling July 81 FHB/TSS E 2/3/8'

TO: Henry Jacoby

Product Manager (21)

APPLICANT: Charles W. Edwards

Ag Products Research Lab.

Cargill, Inc. P.O. Box 9300

Minneapolis, MN 55440

Active Ingredients:

Carboxin..... Inert Ingredients......80%

### Background:

The Acute Oral, Acute Dermal, Eye and Skin Irritation studies were submitted for this product. Additionally, Acute Oral, Acute Dermal, Eye and Skin Irritation studies were submitted for both "Evershield RTU 1050" (10% Thiram, 5% Carboxin) and "Evershield RTU 1000" (10% Thiram). No Acute Inhalation studies were submitted. All studies were conducted at Hill Top Research in St. Petersburg, Florida.

### Recommendations:

- 1. For "RTU 1010", "RTU 1050" and "RTU 1000" the Acute Cral study, Acute Dermal, Eye and Skin Irritation studies were considered adequate and acceptable for the purposes of this registration. However, for future tests please note that 4 sites (2 intact and 2 abraded) must be tested in the Skin Irritation test.
- 2. No Acute Inhalation data were submitted; however, other thiram and carboxin mix products are registered with similar inhalation precautionary statements.

### Labeling Recommendations:

- 1. Based on the data submitted, the appropriate signal word is CAUTION as proposed by the applicant.
- 2. Under "Environmental Hazards" the statement "Keep out of lakes, streams or ponds" may be changed to "Do not directly apply to lakes, streams or ponds."
- 3. No additional revisions are required at this time.

### Review

1. Evershield RTU 1010:
Acute Oral Administration-Rats: Hill Top Research Ref: 78-427-21;
June 29, 1978; Acc. No. 243739

### Procedure

Five groups of 5M, 5F Sprague-Dawley rats (M=172-266g, F=161-258g) received "Evershield RTU 1010" by cral intubation. Dosages were at the 0.464, 1.0, 2.15, 4.64, 10.0 g/kg levels. Animals were observed for 14 days after treatment. Gross necropsies were performed on all animals.

### Results:

Deaths were 1/5 F at 1.0 g/kg and 1/5 F at 10.0 g/kg. The LD50 is greater than 10.0 g/kg. Observations made were: bloody-appearing urine stains, piloerection, slight emaciation, alopecia on face. Necropsies revealed: livers - mottled, dark; intestines - bright reddish-orange in isolated regions, irritated; kidneys and adrenals - congested; autolytic alterations; bloody-appearing diarrhea stains.

Study Classification: Core Guideline Data

### Toxicity Category: IV-CAUTION

2. Evershield RTU 1010:
Acute Dermal Toxicity-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Ten New Zealand white rabbits, 6M and 4F (2004-2575g), were each exposed to 21.5 g/kg of "Evershield RTU 1010." The application site was abraded in 2M, 2F. Exposure was for 24 hours under occlusive wrap. Animals were observed for 14 days post-application. All animals were subjected to necropsies.

### Results:

No mortalities during study. The LD50 > 21.5 g/kg. Observations included: diarrhea, emaciation, edema, desquamation, coriaceousness, alopecia on the chest, sample stains which prevented erythema scoring. Necropsies revealed: lesions on liver of 1 rabbit; slightly depleted body fat stores and distended colon (1/10).

Study Classification: Core Minimum Data.

### Toxicity Category: III-CAUTION

3. Evershield RTU 1010:
Acute Eve Application-Rabbits: Hill Top Research Ref: 78-427-21;
June 29, 1978; Acc. No. 243739

### Procedure:

One eye of each of 9 New Zealand whit: rabbits each received 0.1 ml of "Evershield RTU 1010." Three of the eyes were rinsed 30 seconds post-treatment for 60 seconds with at least 200 ml of lukewarm tap water. Draize scoring at 24,48 and 72 hours; 4 and 7 days.

### Results:

At 24 hours in the unwashed eyes, all scores were zero except erythema in 3/6=1. All scores for unwashed eyes were zero by day 2.

The washed eyes at 24 hours were all clear except for erythema in 1/3=1. All scores were zero by day 2.

Study Classification: Core Guideline Data.

### Toxicity Category: III - CAUTION

Evershield RTU 1010: Patch Test for Primary Skin Irritation and Corrosivity-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Six New Zealand white rabbits each received 0.5 ml of "Evershield RTU 1010" at 1 abraded and 1 intact site per animal. Exposure was for 24 hours under occlusive wrap. Draize scoring at 24 and 72 hours.

### Results:

At 24 hours, sites could not be scored for erythema due to sample staining; all edema scores were zero. At 72 hours, all scores were zero. PII could not be calculated.

<u>Study Classification:</u> Core Minimum Data. There must be 2I and 2A sites per animal.

### Toxicity Category: IV - CAUTION

5. Evershield RTU 1050: Acute Oral Administration-Rats: Hill Top Research Ref: 78-427--21; June 29, 1978; Acc. No. 243739.

### Procedure:

Five groups consisting of 5M (172-266g) and 5F (161-258g) Sprague-Dawley rats each received a dosage of "Evershield RTU 1050" by oral intubation. Dosage levels were 0.464, 1.00, 2.15, 4.64, 10.0 g/kg. Animals were observed for 14 days post-treatment. All animals were subjected to necropsies.

### Results:

Deaths were reported as follows: no males died; at 0.464 g/kg, 1/5 F died. Observations included: alopecia, depression and emaciation. Necropsies revealed: kidneys - congested, whitened; lungs - filled with fluid; intestines - slightly swollen with gas. The LD50 > 10 g/kg.

Study Classification: Core Guideline data.

Toxicity Category: IV - CAUTION

6. Evershield RTU 1050: Acute Dermal Toxicity-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Ten New Zealand white rabbits, 6M and 4F (2004-2575 g) were each exposed to 21.5 g/kg of "Evershield RTU 1050." The application site was abraded in 2M, 2F. Exposure was for 24 hours under occlusive wrap. Animals were observed for 14 days post-application. All animals were subjected to necropsies.

### Results:

No mortalities during study. The LD50 > 21.5 g/kg. Observations included: nasal discharge, edema, coriaceousness, staining due to sample which prevented scoring for erythema.

Study Classification: Core Minimum Data

Toxicity Category: III - CAUTION

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7. Evershield RTU 1050: Acute Eye Application-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

One eye of each of 9 New Zealand white rabbits each received 0.1 ml of "Evershield RTU 1050." Three of the eyes were rinsed 30 seconds post-treatment for 60 seconds with at least 200 ml. of lukewarm tap water. Draize scoring at 24, 48 and 72 hours; 4 and 7 days.

### Results:

At 24 hours the unwashed eyes showed only erythema in 1/6=1; all scores were zero by day 2. In the washed eye group, all scores were zero.

Study Classiffication: Core Guideline Data.

### Toxicity Category: III - CAUTION

8. Evershield RTU-1050: Patch Test for Primary Skin Irritation and Corrosivity-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Six New Zealand white rabbits each received 0.5 ml of "Evershield RTU 1050" at 1 abraded and 1 intact site per animal. Exposure was for 24 hours under occlusive wrap. Draize scoring at 24 and 72 hours.

### Results:

At 24 hours, unable to score erythema due to staining; all edema scores were zero. By 72 hours, all edema and erythema scores were zero.

<u>Study Classification:</u> Core Minimum data. There must be at least 2I and 2A sites per animal.

### Toxicity Category: IV - CAUTION

 Evershield RTU 1000: Acute Oral Administration-Rats: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Five groups of 5M, 5F Sprague-Dawley rats (M=172-266 g, F=756-258 g) received "Evershield RTU 1000" by oral intubation. Dosages were at the 0.464, 1.0, 2.15, 4.64 and 10.0 g/kg levels. Additionally, 5M were tested at the 1.0 g/kg level. Animals were observed for 14 days after treatment. Gross necropsies were performed on all animals.

### Results:

Deaths reported were: 0/5M and 0/5F at 0.464 g/kg; 3/5M and 1/5F at 1 g/kg, repeated with 0/5M deaths; 0/5M and 0/5F at 2.15 and 4.64 g/kg; 1/5M and 0/5F at 10 g/kg. Observations were: depression, lack of righting and placement reflexes; closed eyes; emaciation; lump on chest; hyperactivity; unkempt fur. Necropsies revealed: livers - dark, pale, intestines - irritated, distended with gas, bright reddish-orange in isolated regions; lump on chest; stomach filled with fluid; irritated hemorrhagic peritoneal wall; autolytic alterations; diarrhea, salivation stains.

LD50 > 10 g/kg for M and F based on additional (not original) males at 1.0 g/kg level.

Study Classification: Core Guideline Data

Toxicity Category: IV - CAUTION

10. Evershield RTU 1000: Acute Dermal Toxicity-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Ten New Zealand white rabbits, 6M and 4F (2004 - 2575 g) were each exposed to 21.5 g/kg of "Evershield RTU 1000." The application site was abraded in 2M, 2F. Exposure was for 24 hours under occlusive wrap. Animals were observed for 14 days post-application. All animals were subjected to necropsies.

### Results:

1M with intact skin died. Observations included: nasal discharge, emaciation; edema; desquamation; coriaceousness; lump on abdomen; sample staining. Necropsy report for animal which died during study noted diarrhea and nasal discharge stains; intestines distended with gas. In animals which survived observation period, necropsies showed slightly depleted body fat stores; no other gross pathological alterations. LD50 > 21.5 g/kg.

Study Classification: Core Minimum Data

Toxicity Category: III - CAUTION

11. Evershield RTU 1000: Acute Eye Application-Rabbits: Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

One eye of each of 9 New Zealand white rabbits each received 0.1 ml of "Evershield RTU 1000." Three of the eyes were rinsed 30 seconds post-treatment for 60 seconds with at least 200 ml of lukewarm tap water. Draize scoring at 24, 48, 72 hours; 4 and 7 days.

### Results:

At 24 hours in unwashed eyes, erythema in 2/6=1, swelling in 1/6=2 and discharge in 3/6=1; all eyes were clear by day  $4_e$  At 24 hours in washed eyes, only irritation noted was erythema in 1/3=1; all scores were zero by day 2.

Study Classification: Core Guideline Data.

Toxicity Category: III - CAUTION

12. <u>Fvershield RTU 1000: Patch Test for Primary Skin Irritation and Corrosivity-Rabbits:</u> Hill Top Research Ref: 78-427-21; June 29, 1978; Acc. No. 243739.

### Procedure:

Six New Zealand white rabbits each received 0.5 ml of "Evershield RTU 1000" at 1 abraded and 1 intact site per animal. Exposure was for 24 hours under occlusive wrap. Draize scoring at 24 and 72 hours.

### Results:

At 24 hours, unable to score for erythema due to sample staining; no edema. At 72 hours, all scores were zero.

Study Classification: Core Minimum Data. Test must be run on 2I and 2A sites pir animal.

Toxicity Category: III - CAUTION

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a violation of Federal law to use this product in a reconsistent with its tabeling. FTU-1010Sood stand and its for use by professional seed "s only. Otserve all cautions and limitations on any of products used in mixtures.

DIRECTIONS

## STORAGE AND DISPOSAL

FROHBITIONS

rest contaminate water, food or feed by storage, dis-it or by cleaning of equipment. Do not reuse empty sear Op an dumping is prohibited.

FESTICIDE DISPOSAL

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tal reprocessed should be disposed of in a landilli

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CONTAINER DISPOSAL

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or training approved for pesticide containers, or bury in a
or epiace.

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STORAGE

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Thiran . . . . . . . . . . . . . . . . 10X (Tetramethylthiuran disulfide)
NEAT INGREDIENTS . . . . . . . . . 601



Operation Products Division Agricultural Products Dept. Carolli, Incorporated P.O. Box 9300 Minnespolls, Minnesols 55440

CAUTION HAZARD TO HUMANS AND DOMESTIC ANIMALS

Swallowed, Haimful II awellowed, get me lical altention.

Inhaled: May be harmlul if inhaled, get majical altention. Avoid Inhalation by using a respirator.

Bhin: Avoid contact with thin or clothing. Wash theroughly with soap and water. Wash hands and face thoroughly with soc pand water after use and before eating or smoking.

ENVIRONMENTAL HAZARDS.
This product is toxic to lish. Keep out of lakes, sitesans or ponds. Do not contaminate water by cleaning of equipment of disposal of wastes. Eyes: Avoid contact with eyes, in case of cortact with eyes, flush immediately with cortact with eyes, flush immediately with furnity water and get medical effection filtrilation persists.

## DIRECTIONS

Keep product away from food or food products. Bage con-taining treated seed should be labeled "Treated seed - do not use for feed, food or oil purposes."

Apply with commercial seed freating equipment such as a stury treater.

This product does not require the addition of water for application.

HIX CONTENTS THOROUGHLY BEFORE USE

theat, oats, bariey - apply 4.16 fluid ounces or 128.7 milliliter per 100 pounds of seed for control of seed and seedling discoses, smut and bunt.

### NOTICE:

Our recommendations for use of this product are baser upon tests believed to be reliable. The use of this product being beyond the control of the manufacture, no guarantee, oxpressed or implied, is made as to the effects o such, or the results to be obtained if not used in accreaince with directions or established safe practice. The bayer must assume all responsibility, including injury or damage, resulting from its misuse as auch, or in combinations with other materials.

APA BLM NO. 0R-800096

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## DIRECTIONS

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## STORAGE AND DISPOSAL

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STORAGE Start in a cool dry place.

GALLONS U.S.

Minneapolis, Minneapta 55440 Manufactured by Chemical Products Division Chemical Products Dept. Agricultural Products Dept. Carolli, incorporated p. 6. Box 8300

ENVIRONMENTAL HAZARDS

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disposal of walter

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# DIRECTIONS

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Apply with commercial seed treating equipment such as a slury treater. This product does not require the addition of unter for application.

Wheat, oats, bailey - apply 4.36 fluid ounces or 153.7 milliliters per 100 pounds of seed for control of, seed and seedlink discarce. HIX CONTENTS THOROUGHLY BEFORE USE

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SEED PROTECTANT

SMALL GRAINS

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Thiram ... thinks disulfide) (Terramethythiuss disulfide) 4-oxathiin-1-carboxaniiide) ACTIVE INGREDIENTS

Eyes Avoid Contact with eyes in case of contact with eyes flush innediate? with cunning water and get medical attention if finitation persists

tee, expressed of limpled, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established sale partice. The buyer must assume all responsibility, including injury or demage, resulting from its misuse as such, or in combinations with other materials. Our recommendations for use of this product are based our recommendations for use of this product upon tests cells to be reliable. The use of this product upon tests control of the manufacturer, no guadant being beyond the central of the manufacturer, to guadant the central of the manufacturer of the central of the central of the manufacturer.

EPA BLN NO. ND-800020

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## DIRECTIONS

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## STORAGE AND DISPOSAL

### HIBITIONS

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(Terramethylthiuram disulfide)

ACTIVE INGREDIENTS

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EPA BLN NO.

# SMALL GRAINS SEED PROTECTAN

ALLF GUT OF REACH OF CHILDREN

## CAUTION FRECAUTION STATEMENTS BOMESTIC ANIMALS AND

Snallowed. Harmful If swallowed, gel

Eyes: Avoid contact with eyes in case of contact with spes, flush inmediately with quanting water and get modical attention if funtation persists

ENVIRONMENTAL HAZARDS
This product is toxic to fish Keep out of
lakes, siteams us ponds Do not contambinate water by cleaning of equipment or
disposal of wastes

Minnespoils, Minnesota 55440

Manufactured Ly Chemical Producte Division Agricultural Products Dept. Caralli, incorporated P.O. Box 8300

## DIRECTIONS

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Wheat, oats, barley - apply 4.36 [luid ounces or 128.7 milliflees per 100 pounds of serd for control of seed and seedlink discausa. HIX CONTENTS THOROUGHLY BEFORE USE

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