



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
FHB/TSS

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.....	10%
Thiram.....	10%
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 Oral 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.

1/5/10

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 oral 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 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 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

4. 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.

Study Classification: 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

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 Classification: 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.

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

Toxicity Category: IV - CAUTION

9. 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=161¹⁶¹-258 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.

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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. 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. Evershield RTU 1000: 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 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 *per animal*.

Toxicity Category: III - CAUTION

DIRECTIONS

is a violation of Federal law to use this product in a manner inconsistent with its labeling. RTU-1010 Seed Protectant is for use by professional seed dressers only. Observe all cautions and limitations on use of products used in mixtures.

STORAGE AND DISPOSAL

PROHIBITIONS
Do not contaminate water, food or feed by storage, disposal or by cleaning of equipment. Do not reuse empty containers. Dumping is prohibited.

PESTICIDE DISPOSAL
Do not use in a way that cannot be used or that is not approved for disposal of in a landfill. Do not use for pesticides or buried in a safe place away from water supplies.

CONTAINER DISPOSAL
This container (or equivalent) and disposal in an incinerator or by other approved for pesticide containers, or bury in a safe place.

GENERAL
Observe all federal, state or local disposal authorities for approved alternative procedures such as limited open burning.

STORAGE

Store in a cool dry place.

GALLONS U.S.

RTU-1010

SMALL GRAINS SEED PROTECTANT

ACTIVE INGREDIENTS

Carboxin 10%

(5,6-dihydro-2-methyl-1,4-dioxin-3-carboxanilide)

Thiram 10%

(Tetramethylthiuram disulfide)

INERT INGREDIENTS 80%

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

Swallowed: Harmful if swallowed, get medical attention.

Inhaled: May be harmful if inhaled, get medical attention. Avoid inhalation by using a respirator.

Skin: Avoid contact with skin or clothing. Wash thoroughly with soap and water.

Wash hands and face thoroughly with soap and water after use and before eating or smoking.

Eyes: Avoid contact with eyes. In case of contact with eyes, flush immediately with running water and get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

Manufactured by
Chemical Products Division
Agricultural Products Dept.
Cargill, Incorporated
P.O. Box 8300
Minneapolis, Minnesota 55440

DIRECTIONS

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

Apply with commercial seed treating equipment such as a slurry treater.

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

HIX CONTENTS THOROUGHLY BEFORE USE

Wheat, oats, barley - apply 4.36 fluid ounces or 128.7 milliliters per 100 pounds of seed for control of seed and seedling diseases, smut and bunt.

NOTICE:

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

EPA REG. NO. 0R-800096

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DISTRIBUTION AND USE ONLY WITHIN NORTH DAKOTA

DIRECTIONS

Registration of Federal law to use this product in a manner inconsistent with its labeling. RTU-1010 Seed Dressing is for use by professional seed dressers only. Observe all cautions and limitations on use of products used in mixtures.

STORAGE AND DISPOSAL

CONTAMINATION
Do not contaminate water, food or feed by storage, disposal or by cleaning of equipment. Do not reuse empty container. Open dumping is prohibited.

HAZARDOUS DISPOSAL

Do not spray mixture or residue that cannot be used or stored. Material should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies.

CONTAINER DISPOSAL

Empty container and dispose in an incinerator or a place approved for pesticide containers, or bury in a safe place.

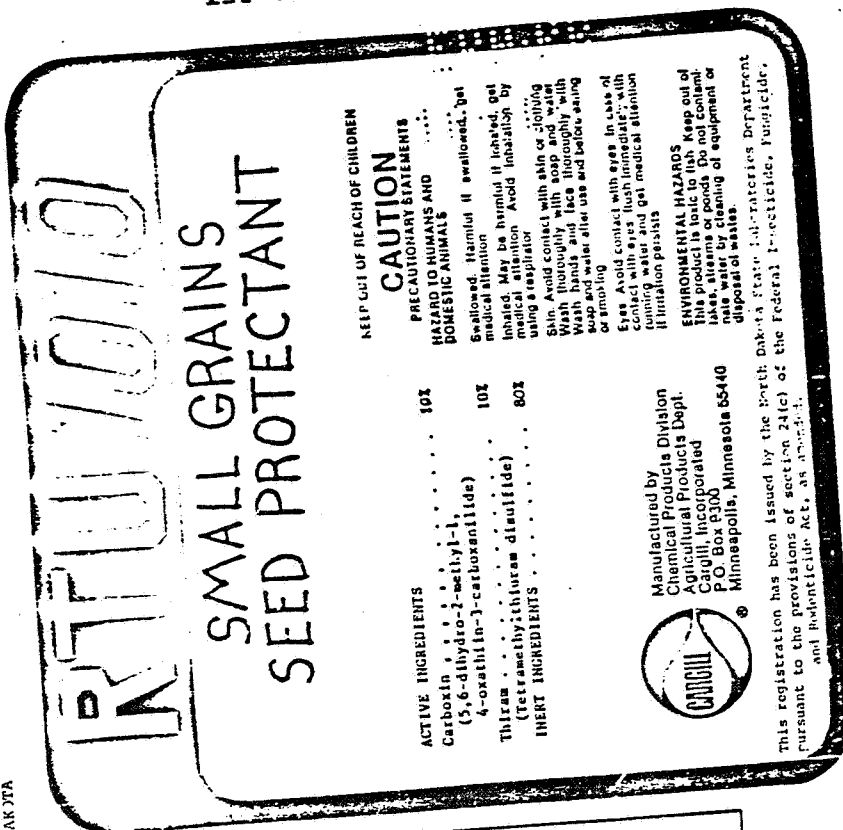
GENERAL
Follow all federal, state or local disposal authorities for approved alternative procedures such as limited open burning.

STORAGE

Store in a cool dry place.

GALLONS U.S.

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DIRECTIONS

Keep product away from food or food products. Bags containing treated seed should be labeled "Treated seed - Do not use for feed, food or oil purposes". Apply with commercial seed treating equipment such as a slurry treater.

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

MIX CONTENTS THOROUGHLY BEFORE USE

Wheat, oats, barley - apply 4.36 fluid ounces or 1.37 milliliters per 100 pounds of seed for control of seed and seedling diseases, smut and bunt.

NOTICE:

Our recommendations for use of this product are based upon tests performed by the manufacturer. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such of the results to be obtained if not used in accordance with the directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

EPA BLN NO. 80-800020

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DIRECTIONS

Read label of Federal law to use this product in a manner consistent with its labeling. RTJ-1010 Seed Protectant is for use by professional seed protectors only. Observe all cautions and limitations on label. Do not use in mixtures.

STORAGE AND DISPOSAL

Store in a cool, dry place. Do not use in a container that cannot be used or repurposed. Do not dispose of in a landfill or for pesticides or buried in a safe place away from supplies.

HAZARD DISPOSAL

Do not spray in a way that cannot be used or repurposed. Do not dispose of in a landfill or for pesticides or buried in a safe place away from supplies.

HAZARD DISPOSAL

Do not use in a container that cannot be used or repurposed. Do not dispose of in a landfill or for pesticides or buried in a safe place away from supplies.

LEGAL

Use for equipment and dispose in an incinerator if approved for pesticide containers, or bury in a safe place.

HAZARD

Use in a cool dry place.

GALLONS U.S.


RTJ-1010

SMALL GRAINS
SEED PROTECTANT

KEEP OUT OF REACH OF CHILDREN
CAUTION
PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS AND
DOMESTIC ANIMALS
Swallowed. Harmful if swallowed, get
medical attention.
Inhaled. May be harmful if inhaled, get
medical attention. Avoid inhalation by
using a respirator.
Skin. Avoid contact with skin or clothing.
Wash thoroughly with soap and water.
Wash hands and face thoroughly with
soap and water after use and before eating
or drinking.
Eyes. Avoid contact with eyes. In case of
contact with eyes, flush immediately with
plenty of water and get medical attention
if irritation persists.
ENVIRONMENTAL HAZARDS
This product is toxic to fish. Keep out of
streams or ponds. Do not contaminate
drinking water by cleaning of equipment or
disposal of wastes.

ACTIVE INGREDIENTS
Carboxin 101
(5,6-dihydro-2-methyl-1,
4-dioxathin-3-carboxanilide)
Thiram 102
(Tetramethylthiuram disulfide)
INERT INGREDIENTS 802

Manufactured by
Chemical Products Division
Agricultural Products Dept.
RTJ, Inc.
P.O. Box 8300
Minneapolis, Minnesota 55440



DIRECTIONS

Keep product away from food or food products. Bags containing treated seed should be labeled "Treated seed," do not use for feed, food or oil purposes.

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

MIX CONTENTS THOROUGHLY BEFORE USE

Wheat, oats, barley - apply 4.36 fluid ounces or 128.7 milliliters per 100 pounds of seed for control of seed and seedling diseases, smut and bunt.

NOTICE:

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