UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: February 9, 1978

SUBJECT: Orthocide 4 Flowable Caswell#159
         EPA Registration#239-2347
         Shaughnessy#081301

FROM: William Greear
      Toxicology Branch

TO: Dr. Wilson
    Product Manager #21

B 2/4/78

Recommendations

The acute oral LD50, dermal LD50, eye and skin irritation studies are acceptable and designated Core-Minimum Data. The label changes proposed by the registrant (with regards to precautionary labeling) are inadequate. The following label changes are recommended:

DANGER: Keep Out of Reach of Children. Corrosive. Causes eye damage. May cause allergic skin reactions. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if inhaled or absorbed through the skin. Avoid inhalation of vapors or spray mists. Avoid contamination of food.

First Aid: In case of eye contact, immediately flush eyes with fresh water for 15 minutes; for skin wash with plenty of soap and water. For eyes call a physician. Remove and wash contaminated clothing before reuse.

Emergency Information – call (415) 233-3737

The registrant should be informed that a data gap exists with respect to the acute inhalation LC50 study on the formulation and that the data could influence the recommended precautionary labeling with respect to the inhalatory route of exposure. In addition the data on which the "skin sensitization" labeling is based should be submitted.

Note: This formulation is a candidate for Restricted Use, both for domestic as well as non-domestic applications. Captan is on the RPAR candidate list – see memo of 8/26/77.

*No RPAR criteria have been exceeded.

Review

1. The Acute Oral Toxicity of Orthocide 4 Flowable (CC 7791) in Rats -
   (Environmental Health & Toxicology, Report #S-1097, 8/19/77,
   submitted by Ortho on 12/15/77, Acc.#232498)
5 male Sprague-Dawley rats were administered 5.0 g/kg of the test material, by gavage. 30 female rats were divided into 6 groups of 5 animals each and administered 3.3, 5.0, 5.0, 7.4, 7.4 or 11.0 g/kg of the test material by gavage. The animals were weighed on days 0.7 and 14. Necropsies were performed.

Results

LD_{50} (male) \geq 5.0 \text{ g/kg}
LD_{50} (female) = 8.1(4.7-13.9) \text{ g/kg}  \quad \text{slope} = 1.7(0.89-3.4)
Toxic Signs: depression, reduced food consumption; survivors chewed their paws.
Necropsy: unremarkable
TOX Category: IV
Classification: Core-Minimum Data
(1) food consumption and body weight data were not recorded daily.

2. The Acute Dermal Toxicity of Ortho Orthocide 4 Flowable (CC 7791) in Rabbits - (Environmental Health & Toxicology, Report#S-1098 8/19/77, submitted by Ortho on 12/15/77, Acc#232498)

5 g/kg of the test material was applied to the clipped skin of the back of each of 6 New Zealand white rabbits, weighing 2.54-2.99 kg. Three of the animals were further prepared by abrading the skin. The test material was allowed to remain in contact with the skin under an occlusive wrapping for a period of 24 hours. Following the 24 hours exposure period the wrappings and any residual test material were removed. The animals were observed for 14 days and then sacrificed and necropsied.

Results

LD_{50} > 5.0 \text{ g/kg}  \quad \text{(no death occurred)}
Toxic Signs: none observed
Necropsy: unremarkable
TOX Category: III
Classification: Core-Minimum Data
(1) food consumption and body weights were not determined daily.

3. The Eye Irritation Potential of Ortho Orthocide 4 Flowable (CC 7791) - (Environmental Health & Toxicology, Report#S-1099, 8/19/77, submitted by Ortho on 12/15/77, Acc#232498)

0.1 ml of the test material was placed in the conjunctival sac of one eye of each of 6 New Zealand white rabbits. The eyes were graded at 1 hr., 1, 2, 3, 7, 10 and 14 days, using a modification of the scoring system of Draize.
Results

Slight to moderate corneal opacity was observed in most eyes during the 1, 2 and 3-day readings. Slight or dense corneal opacity accompanied by slight to severe mucus was present in most eyes at 7 days and in some up to 14 days.

TOX Category: I
Classification: Core-Minimum Data
(1) an eye wash study was not performed.

4. The Skin Irritation Potential of Ortho Orthocide 4 Flowable (CC 7791) - (Environmental Health & Toxicology, Report#S-1100, 8/19/77, submitted by Ortho on 12/15/77, Acc#232498)

0.5 ml of the test material was applied to an intact and an abraded area on the clipped skin of the back of each 6 New Zealand white rabbits. The test material was allowed to remain in contact with the skin under an occlusive wrapping for a period of 24 hrs., after which the wrapping and any residual test material were removed. Irritation was scored at 24, 48 and 72 hrs. and 7 days, using a modification of the scoring system of Draize.

Results

P. I. 0.3/8.0 (readings on erythema could not be made at 24 hours)
TOX Category: IV
Classification: Core-Minimum Data
(1) readings were not made on 2 intact and 2 abraded skin sites.

Typists: TH
COPY A

CAUTION: May cause eye irritation and skin sensitization. Avoid contact with eyes and skin. Avoid inhalation of vapors or spray mists. Wash thoroughly after using. Remove and wash contaminated clothing before reuse. In case of eye contact, immediately flush eyes with fresh water for 15 minutes; for skin wash with plenty of soap and water. Get medical attention if irritation persists.

Note to Physicians: Emergency Information - call (415) 233-3737.

Avoid contamination of feed or foodstuffs. Dispose of container promptly when empty. Do not reuse. Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

COPY B

Foliage injury may at times occur to Red Delicious, Winesap and other sensitive varieties of apples in early-season sprays.
**ORTHOCIDE® 4 Flowable**

**INGREDIENTS**

- **Ingredient:**
  - JN 4
  - 4-Chloro-3-benzisoxazole, 2.9%<br>
  - 4-Chloro-3-benzisoxazole, 2.9% (R)-Ethyl, 58.2%
  - 4-Chloro-3-benzisoxazole, 2.9% (S)-Ethyl, 58.2%

- **Capron:** 4 lbs. Capron per gallon

**DIRECTIONS:**

- **APPLICATION:** Keep out of reach of children and pets.
- **DIRECTIONS:**
  - For preplant use, apply 1 to 2.5 lbs. per acre in the root zone.
  - For in-crop use, apply 1 to 2.5 lbs. per acre to the foliage.

**PRECAUTIONS:**

- Avoid contact with eyes, skin, and clothing.
- Wear protective clothing and eyewear when handling.
- Do not eat, drink, or smoke while using or handling the product.
- Avoid inhalation of dust or mist.

**READ THE LABEL**

**CAUTION:** Harmful if swallowed. Avoid inhalation of dust or spray mist. Avoid contact with skin.

**Note to Physicians:** Emergency Information - call (415) 233-3737.

**Note to Shippers:** Do not handle or store near food or water supplies. Avoid contact with eyes, skin, and clothing.

**NOTICE:** ALCOHOLIC BEVERAGES OR Baking SODA may be used as a substitute for water in some cases.

**PLANTS:**

- **Crop:**
  - Corn, cotton, soybeans, alfalfa, peanuts, sugar beets, and many others.

**RECOMMENDATIONS:**

- Preplant use only.
- Apply 1 to 2.5 lbs. per acre in the root zone.

**PACKAGING:**

- **Container:** 40 lb. drums
- **Gallon:** 1 gal. bottles

**COMPATIBILITY:**

- Do not mix with any other herbicides or pesticides.
- May be mixed with some fungicides and insecticides.

**CONDITIONS OF SALE:**

- Chevron Chemical Company (Chevron) warrants that this material conforms to the chemical description on the label and is reasonably fit for use as directed herein. Chevron neither guarantees nor extends any other warranty of fitness or of MERCHANTABILITY to the contrary, herein.

**Certified Organic:**

- This product is certified organic by the Organic Certification Program.