UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

001063

DATE: November 30, 1978

SUBJECT: Bravo 500 Caswell # 215B

FROM: Carlos A. Rodriguez
TOX/HED TS-769

TO: Henry Jacoby, PM #21
RD TS-767

Registration No. 677-313

Registrant: Diamond Shamrock
Agricultural Chemical Division
1100 Superior Avenue
Cleveland, Ohio 44114

Action Requested: Update Precautionary Statements

Recommendations:

Add "Harmful if swallowed" to the precautionary statements. This statement should appear preceding the statement "Do not take internally".

Formulation:

Active Ingredient:

Chlorothalonil (tetrachloroisophthanonitrile) 40.76%

Inert Ingredients:

[redacted]

Uses: Agricultural fungicide

INERT INGREDIENT INFORMATION IS NOT INCLUDED

EPA FORM 1320-6 (REV. 2)

Toxicology Review:

Acute Toxicity Studies with Bravo 500, DTX Report No. DTX-77-0060 (Bio/dynamics, Inc., Sept. 19, 1977, submitted by Diamond Shamrock Corporation).

A. Acute Oral LD_{50} (September 19, 1977)

50 Wistar strain albino rats, weighing 210-25, grams were distributed into 5 groups of 5 male and 5 female animals each and administered the following levels: 2.0, 2.8, 4.0, 5.6 and 8.0 g/kg of the test material by oral intubation as a 25% W/V dispersion in distilled water. The rats were observed for mortality and toxic signs at 0-2 and 4-6 hours following dosing and daily thereafter for 14 days. Initial and final body weights were recorded and a gross necropsy was performed on all animals.

Results:

LD_{50} = 4.2 (2.9-6.1) g/kg.

Toxic signs (2.0 g) = Ataxia, nasal discharge, fecal and urinary staining, soft stool, lethargy, piloerection, unhealthy appearance, and prostration in the higher doses.

Necropsy: stomach: light yellow
intestines: light yellow with yellow liquid
liver: mottled with white blotches
kidneys: pale in color and slightly hollow
lungs: mottled with red patches and white spots on surface

TOX category: III

Classification: Core-Minimum Study.

B. Acute Dermal LD_{50} (DTX-77-0063, October 24, 1977)

3 male and 3 female rabbits, New Zealand white strain, had their hair removed from the trunk. The skin of half of the animals was abraded. The test material was administered as received at a single dose of 20.0 g/kg. The test material was held in contact with the skin by a sleeve for 24 hours, afterwhich the wrappings were removed and observations were made for toxic signs. Body weights were recorded initially and terminally. A necropsy examination was performed on all animals.

Results:

LD_{50} = >20.0 g/kg

Toxic signs: moderate to severe erythema, slight edema in 5 animals and moderate edema in one animal. Soft stool in 4 animals. Body weight increased in 5 animals.

2

Necropsy: kidneys: pale and tan
lungs: mottled

TOX Categoty: IV

Classification: Core-Minimum Study

C. Primary Dermal Irritation Study, (Report No. DIX-77-0061, 9/19/77)

0.5 ml was applied to the intact and abraded skin area of six New Zealand white rabbits (3 male and 3 female), weighing 2.15 to 2.45 kg. The sites were closely clipped over the back and sides of the rabbits. The test material was administered as received and beneath a surgical guaze and secured with adhesive tape. The material was allowed to remain in contact with the skin for 24 hours, after which the wrappings were removed and observations for signs of dermal irritation or systemic toxicity were recorded at 24 and 72 hours after application.

Results:

The primary dermal irritation index was found to be 1.3 considered to be slightly irritating and non-corrosive when applied dermally to albino rabbits.

TOX Category: IV

Classification: Core-Minimum Study

D. Rabbit Eye Irritation Study (Report No. DTX-77-0062, 9/19/77)

0.1 ml of the test material was instilled into the conjunctival sac of one eye of each of six rabbits (3/sex). None of the treated eyes were rinsed. The eyes were examined and scored for ocular reactions on Days 1, 2, 3 and 7 following application. Ocular reactions were scored according to Draize.

Results:

Corneal opacity (Grade 2) in 2/6 rabbits at 24 hours.

Conjunctival irritation (Grade 2) in 5/6 rabbits at 24 hours.

Conjunctival irritation (Grade 1) in 1/6 rabbits at 24 hours.

Moderate discharge in 4/6 rabbits at 24 hours.

Slight discharge in 2/6 rabbits at 24 hours.

3

Conjunctival ulceration was observed in 2/6 rabbits. Ulceration still present in one rabbit at 7 days.

Two rabbits were clear of signs of irritation on Day 3, three rabbits on Day 7, and one rabbit minimal redness was still observed on Day 7.

TOX Category: I

Classification: Core-Minimum Study

E. Acute Inhalation Study, (Report No. DTX-77-0064, 12/6/77)

Sprague-Dawley rats (5 male and 5 female) weighing between 217 and 300 grams were placed in a 26.5 liter glass exposed chamber for 4 hours and exposed to a concentration of 7.16 mg/liter. The test animals were observed for toxic signs continuously for the first hour and then hourly for the next three hours and daily for 14 days thereafter. Body weight was recorded. On day 14, all animals were terminated and a gross necropsy was performed.

Results:

No toxic signs were exhibited during the exposure period. Dry rales were exhibited by 2 of the 10 rats during the 4 hour exposure and 7 of 10 rats exhibited dry rales during the 14 day observation period. Excessive salivation was observed on Day 7 in one female rat and red nasal discharge in 2 other rats.

F. Eye Irritation Study with Bravo 500, Project No. MB 77-2223, Sample No. DSF-111-1, (MB Research Laboratories, Inc. 11/30/77, submitted by Diamond Shamrock Corporation)

0.1 ml of the test material was instilled into the conjunctival sac of one eye of each of 6 rabbits (3 male, 3 female) New Zealand white rabbits. The eyes were examined at 24, 48 and 72 hours, and 7 days and at 14 days. At 72 hours and 7 days the eyes were examined with the aid of 2% sodium fluorescein solution USP and ultraviolet light in addition to the unaided observations. The cornea, iris and palpebral conjunctiva were scored.

Results:

One rabbit died in the 5th day observation period. The cause of death was undetermined.

Corneal opacity (Grade 4) in 3/5 rabbits at 7 day observation period.

4

Three rabbits died (cause undetermined) in the 9, 12 and 13 days after dosing. Two additional male rabbits were dosed.

Corneal opacity (Grade 3) in one rabbit at 14 days.

Positive iris irritation in all rabbits.

Iris irritation cleared at 7 days in 3 rabbits

One rabbit exhibited iris irritation at 7 days and another rabbit at 14 days.

Conjunctival irritation (moderate to severe) in 5/6 rabbits at 7 days and 2 rabbits (Grade 1) at 14 days.

TOX Category: I

Classification: Core-Minimum Study.

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