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TXR-6240

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APR 15 1987

MEMORANDUM

SUBJECT: EPA File Symbol 476-EEGA
Arrosolo 3-3E

FROM: Deloris F. Graham DFG 4/20/87
Technical Support Section
Fungicide-Herbicide Branch
Registration Division (TS-767C) E 4/20/87

TO: Richard F. Mountfort, PM 23
Fungicide-Herbicide Branch
Registration Division (TS-767C)

APPLICANT: Stauffer Chemical Company
1200 South 47th Street
Richmond, CA 94804

ACTIVE INGREDIENTS:

S-ethyl hexahydro-1H-azepine-1-carbothioate	33.1%
N-(3,4-dichlorophenyl)propanamide	33.1%
INERT INGREDIENTS:	33.8%

BACKGROUND:

Submitted Acute Oral, Acute Dermal, Eye Irritation, Skin Irritation, Acute Inhalation, and Dermal Sensitization Studies to support conditional registration of this product. Studies conducted by Stauffer Chemical Company, Richmond Toxicology Laboratory. Data under EPA MRID Nos. 400702-02, -03, and -04. Method of support not indicated.

RECOMMENDATIONS:

1. FHB/TSS finds these data acceptable to support conditional registration of this product.

2. The appropriate signal word is WARNING.

LABEL:

Precautionary labeling submitted is acceptable.

REVIEW:

(1) Acute Oral Toxicity Study: Richmond Toxicology Lab.; Report No. T-6557; December 30, 1986; MRID No. 400702-02.

PROCEDURE:

Six groups consisting of ten male rats each were dosed with one of the following: 452, 600, 804, 1072, 1429, or 1900 mg/kg of test material. Nine groups consisting of ten female rats each were dosed with one of the following doses: 398, 501, 562, 631, 800, 1000, 1259, 1585, or 2042 mg/kg of the test material. Observations made for 14 days postdosing. Necropsy performed on all animals.

RESULTS:

At 562 mg/kg, 4/10 F died; at 600 mg/kg, 3/10 M died, at 631 mg/kg, 4/10 F died; at 800 mg/kg, 8/10 F died, at 804 mg/kg, 2/10 M died; at 1000 mg/kg, 9/10 F died; at 1072 mg/kg, 6/10 M died; at 1259 mg/kg, 8/10 F died; at 1429 mg/kg, 9/10 M died; at 1585 mg/kg. 8/10 F died; at 1900 mg/kg, 10/10 M died; at 2042 mg/kg, 10/10 F died.

Toxic signs reported included severe depression, shallow breathing, prostration, clear fluid build-up around eyes, salivation, ruffled fur, blood-like stains around face, glazed eyes, lacrimation, no drug-related renal eye infection, diarrhea, hunched posture, one rat blood-like fluid running from penis; blood-like tears running from eyes, yellow stains about the anogenital area, pale eyes, swollen eyes, hindleg paralysis, cold body, slack lower lip.

Necropsy report revealed dark lungs, red fluid in intestines, red fluid in bladder, dark liver, bloated stomach and bladder, thick white material in the mouth, very pale kidneys, dark testes, dark red lungs with apparent hemorrhage, black fluid in intestines, greenish-brown fluid in intestines and bladder, and cannibalism in one female rat.

LD_{50} for males reported to be 900 mg/kg with 95% confidence limits between 731.8 and 1106.9 mg/kg. LD_{50} for females reported to be 680 mg/kg with 95% confidence limits between 562.1 and 822.6 mg/kg.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

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(2) Acute Dermal Toxicity Study: Richmond Toxicology Lab.; Report No. T-6557; December 30, 1986; MRID No. 400702-02.

PROCEDURE:

Five male and five female rabbits each were treated with 5000 mg/kg of test material dermally. One-half the animals had abraded skin. The treated sites were placed under occlusive wrap for 24-hour exposure period. Observations made for 14 days postdosing. Necropsy performed on all animals.

RESULTS:

No mortalities reported. Pale eyes, red eyes, moderate to severe erythema in some animals reported. LD_{50} reported to be greater than 5000 mg/kg.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: IV - CAUTION.

(3) Skin Irritation Study: Richmond Toxicology Lab.; Report No. T-6557; December 30, 1986; MRID No. 400702-02.

PROCEDURE:

Six rabbits with intact and abraded skin sites each received 0.5 ml of test material under occulusive wrap for 24-hour exposure period. Observations made for 72 hours posttreatment.

RESULTS:

At 24 hours, 6/6 rabbits had moderate erythema (scores of 3) and slight to moderate edema (scores of 1, 2, and 3). At 72 hours, slight to well-defined erythema (scores of 1 and 2) and slight edema (scores of 1). Primary Irritation Score reported to be 3.6.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

(4) Eye Irritation Study: Richmond Toxicology Lab.; Report No. T-6557; December 30, 1986; MRID No. 400702-02.

PROCEDURE:

Nine rabbits received 0.1 ml of the test material in one eye each. The treated eyes of three of the rabbits were washed with water 20 to 30 seconds after treatment. Observations made for 14 days posttreatment.

RESULTS:

At day 1, 6/6 rabbits of the unwashed group and 2/3 of washed groups had corneal opacity (6/6 = 20) (2/3 = 20); 2/6 had iris irritation (2/6 = 5); 6/6 + 3/3 conjunctive redness (1/6 = 1, 4/6 = 2, 1/6 = 3) (3/3 = 2), chemosis (1/6 = 1, 3/6 = 2, 1/6 = 3, 1/6 = 4) (1/3 = 2, 1/3 = 3, 1/3 = 4) and 4/6 + 3/3 discharge (2/6 = 1, 1/6 = 2, 1/6 = 3) (1/3 = 1, 1/3 = 2, 1/3 = 3).

At day 7, 4/6 + 2/3 conjunctive redness (4/6 = 1) (2/3 = 1); 4/6 chemosis (3/6 = 1, 1/6 = 2); 1/3 discharge (1/3 = 1). Irritation had cleared by day 14 in unwashed group and by day 10 in washed group.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: II - WARNING.

(5) Acute Inhalation Toxicity Study: Richmond Toxicology Lab.; Report No. T-12944; December 30, 1986; MRID No. 400702-03.

PROCEDURE:

Three groups consisting of ten male and ten female rats each were exposed for 4 hours to one of the following gravimetric concentrations: 1.88, 2.20, or 2.51 mg/L. Mass median aerodynamic diameters ranged from 1.07 to 2.50 um with geometric standard deviation between 2.12 and 2.48. Temperature ranged between 74 and 77 °F and relative humidity between 65 and 68%. Observations made for 14 days postexposure. Necropsy performed on all animals. A control group of 10 males and 10 females exposed to air only was also used.

RESULTS:

At 1.88 mg/L, 1/10 M and 2/10 F died; at 2.20 mg/L, 3/10 M and 5/10 F died; at 2.51 mg/L, 2/10 M and 5/10 F died. Toxic signs reported include abrasions on tail, anorexia, brown stained forefeet/forelegs and head/facial area and ventral body; chromodacryorrhea, chromorhinorrhea, cloudy eyes, dehydration, distended abdomen, dyspnea, wheezing, gasping, emaciated, green/yellow stained perineum; hair thinning/hair loss; head tilt, moribund, reduced activity, rough haircoat, sneezing, wet hair coat, yellow stained scapula, black stained pelvis and yellow stained head. Necropsy report confirmed toxicity signs and revealed GI content bloody, peritoneal fluid orange color, black foci in glandular mucosa of stomach, contents of duodenum and jejunum yellow and foamy, ileum contents dark red, yellow and foamy, contents of stomach yellow; eyes cloudy; liver-white/gray discolored area on visceral surface; lungs-congested, reddened,

failed to collapse, black focus on left lobe; thymus - red foci; bladder distended with urine; pale heart, dark brown, pale kidneys; mesentery lymph nodes slightly enlarged, spleen slightly enlarged, bladder red serous contents; kidney multi-discoloration, testes reduced in size, small and flaccid, failure to descend; hairloss on pelvis and abdomen. LC_{50} for males reported to be 3.4 mg/L with 95% confidence limits between 2.45 and 4.74 mg/L. LC_{50} for females reported to be 2.39 mg/L with 95% confidence limits between 2.01 and 2.83 mg/L.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: III - CAUTION.

(6) Dermal Sensitization Study: Richmond Toxicology Lab.; Report No. T-12518; November 6, 1986; MRID No. 400702-04.

PROCEDURE:

Three groups consisting of ten male guinea pigs each were treated with 0.5 ml topical application initially and on alternate days for a total of 10 induction phase applications using one of the following substances: test material, postive control (0.1% dinitrocnlorobenzene, DNCB) or vehicle control (acetone). Two weeks after tenth induction phase application a challenge dose was applied. One week after challenge dose a rechallenge dose was applied. Observations made at 24 hours after induction phase applications, and at 24, 48, and 72 hours after challenge and rechallenge applications.

RESULTS:

Skin flaking and eschar noted in some guinea pigs during induction phase of test group. Well-defined erythema and edema noted in one guinea pig during induction phase. Skin flaking and eshcar noted at challenge, but clear at rechallenge.

Eschar noted in one guinea pig of vehicle control group. Skin flaking and eschar noted at challenge, but clear at re-challenge. Postive control group had slight to well-defined erythema and edema with eschar, hair loss, skin flaking, and yellow stained fur. Slight to moderate erythema and edema, eshcar, skin flaking, blanched skin, and yellow-stained fur noted at challenge and rechallenge. It is concluded, based on information submitted, that this product did not produce a skin sensitizing reaction.

STUDY CLASSIFICATION: Core Guideline Data.

TOXICITY CATEGORY: NONSENSITIZING.

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Molinate toxicology review

Page _____ is not included in this copy.

Pages 6 through 8 are not included in this copy.

The material not included contains the following type of information:

___ Identity of product inert ingredients

___ Identity of product impurities

___ Description of the product manufacturing process

___ Description of product quality control procedures

___ Identity of the source of product ingredients

___ Sales or other commercial/financial information

X A draft product label

___ The product confidential statement of formula

___ Information about a pending registration action

___ FIFRA registration data

___ The document is a duplicate of page(s) _____

___ The document is not responsive to the request

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.
