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UNITED STATES ENVIRONMENTAL ROTECTION AGENCY

Releasable

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DATE: April 4, 1978

SUBJECT: Request for Experimental Permit to Ship and Use a Pesticide for Experimental Purpose Only. Bladex/Atrazine (2:1) 4 Herbicide for Preemergence Application for the Control of Weeds in Field Corn. EPA File Symbol 201-EUP-61 Caswell#188C, and 63.

FROM: Carlos A. Rodriguez Carlos A. Rodriguez, 4-4-78.
Registration Division

TO: L. Zink
Special Registration Section

THRU: Dr. George E. Whitmore
Acting Branch Chief, TOX Branch

Recommendations:

The acute oral LD_{50}, dermal LD_{50}, primary skin irritation and the primary eye irritation studies performed with the formulated product are adequate and will toxicologically support the EUP request. At present no changes are required on the label.

*No RPAR criteria have been exceeded.

Review of Submitted Toxicity:

1. Acute Toxicity Studies with SD-50093 (Lot#AB-070677), WIL Research Laboratories, Inc., Report No. WIL-1101-77 (RA 257) 12/20/77, Submitted by Shell Chemical Company.

A. Acute Oral LD_{50}

60 Sprague Dawley CD strain albino rats were distributed into 6 groups , each composed of five male and five female animals. The weight range for the male rats was 218.1 to 280.3 grams, and for the female rats, 202.2 to 216.7 grams. The dosage administered by oral intubation were 1.0, 3.0, 5.0, 4.0, 5.0 and 6.0 ml/kg. Initial and final body weights, mortalities, and reactions were recorded. Gross necropsies were performed on all the animals that died. At the end of the 14 day observations period, the surviving rats were weighed, killed by carbon dioxide and a gross necropsy was performed.

Results:

LD_{50} = 0.33 ml/kg 95% C.L. (0.25-0.43) mg/kg for (male rat)
LD_{50} = 0.28 mg/kg 95% C.L. (not calculated) for female rats.

Toxic Signs: Red stains around the nose and mouth, depression and discharge at the mouth also noted, labored respiration, lying on their side, red stains around eyes, feet twitching, unresponsible to touch or sound, white foam from the mouth.

Necropsy: Hemorrhagic lungs, small amount of blood in plural cavity, intestines bright yellow with light yellow substance, stomach white, brains hemorrhagic, blood clots surrounding brain, peritoneal wall dark red, male showed retracted testicles. One male showed hemorrhagic adrenals and one female showed hemorrhagic ovaries.

TOX Category: II

Classification: Core-Minimum Std.

B. Acute Dermal LD_{50} in Rabbits with SD-50093 Dec. 19, 1977. (Lot#AB-070677)

3 male and 3 female New Zealand albino rabbits weighing between 2.55 and 2.90 kilograms, had their hair removed, approximately 25% of the total body surface. A single application was applied to the intact skin at the dosage level of 2.0 ml/kg of animal body weight. The test material was spread evenly over the test site. The entire site was covered with two layers of 8 - ply gauze and remain in contact for a 24-hours. Observations were made for 14 consecutives days. Necropsy examination were performed on all animals.

Results:

$LD_{50} > 2.0$ ml/kg

Toxic Signs: slight or moderate erythema and slight edema.

Necropsy: a gross necropsy externally revealed a light green material around the mouth, hard dried feces in and around anus and anal obstruction. Internally, the entire plural and abdominal cavity was filled with a reddish-yellow fluid, lungs red in color, liver mottled, gall bladder enlarged and intestines filled with liquid.

TOX Category: III

Classification: Core-Minimum Std.

C. Acute Skin Irritation and Corrosivity in Rabbits with SD-50093 (Lot# AB-070677)

0.5 ml was applied to the intact and abraded skin area of six (3 males and 3 females) New Zealand albino rabbits. The sites were prepared by shaving the hair from the saddle area of the rabbits. The test material was allowed to remain in contact with the skin for 24 hours, after which the wrappings were removed and any remaining sample washed from the site of the animal.

Results:

The primary irritation index was found to be 0.42 considered to be classified as a non-irritant and non-corrosive when applied dermally to albino rabbits.

D. Acute Eye Irritation Study in Rabbits with SD-50093 (Lot#AB-070677)

0.1 ml of the test material was instilled into the conjunctival sac of the right eye of each of 6 rabbits (3 male and 3 female). The left eye remained untreated as served as a control. Examinations for eye irritation were made at 24, 48 and 72 hours and on days 4,7 and 14 following application. The cornea, iris and palpebral conjunctiva were scored, according to Draize.

Results:

Slight conjunctival erythema in 5/6 rabbits at 24 hours.
Slight to moderate discharge in each rabbits at 24 hours.
Slight edema in one rabbit at 24 hours.
All irritation subsided at 72 hours.

TOX Category: III

Classification: Core-Minimum Data

Bladex Existing Tolerances: 40 CFR 180.307

Atrazine Existing Tolerances: 40 CFR 180.220

Toxicology Review L. Chitlik 4/5/76 (Bladex)

Acute Oral LD_{50} - 334 mg/kg
Acute Dermal LD_{50} - >2000. mg/kg
Acute Inhalation LC_{50} - at 4.9 mg/L no deaths (Rat) (80 WP Formulation Tested)

Toxicity Review: 3/5/71, Dr. G. Whitmore, PP#0F0998 on Bladex.

Acute Studies

2 Rat Studies Oral - 25 ppm NEL
Dog Study Oral - 5 mg/kg NEL

Subacute Studies

Rat Oral (13 wk) - 200 ppm NEL (Metabolite XII Study)

3-generation rat - 80 ppm NEL

Chronic Studies

2-year Rat - 12 ppm NEL
2-year Dog - 25 ppm NEL
(100 ppm lowered growth rates and reduced liver weights)

On 4/6/71, Dr. G. Whitmore evaluated an additional metabolite study (Metabolite XIII) and found 10,000 ppm as NEL. He stated that 60% of the total negligible residue would be of metabolites (XII and XIII). Dr. Whitmore recommended granting the temporary tolerance on corn (sweet corn kernels, corn grain) popcorn, (forage and straw) at 0.1 ppm.

Toxicology (Atrazine Technical), W. Greear, 12/22/77.

Acute Oral LD_{50} = 1.202-3.020 g/kg
LD_{50} = 2.030 g/kg 95% C.L. (1.83-2.25) g/kg.

TOX Category: III

Classification: Core-Minimum Data

Acute Dermal LD_{50} -
A LD_{50} = 6.0-9.0 g/kg
LD_{50} = 7.55 g/kg 95% C.L. (5.74-9.94) g/kg

TOX Category: III

Classification: Core-Minimum Data

Primary Dermal Irritation:

Results - not a primary skin irritant.

TOX Category: IV

Classification: Core-Minimum Data

Acute Inhalation LC_{50}
$LC_{50} > 2.0$ mg/L for 4 hrs.

TOX Category: III

Classification: Core-Minimum Data

RD initial GEW 4/2/78

E 4/17/78