UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Atrazine/Review #14/12.22.77/4 pages

SUBJECT: Atrazine Technical
EPA File Symbol
Caswell #63, Shaughnessy*080803

FROM: Toxicology Branch
Registration Division

TO: Robert Taylor
Product Manager #25

Recommendations

The acute oral LD_{50}, dermal LD_{50}, inhalation LC_{50}, eye and skin irritation studies are adequate and will support registration. However, prior to registration it is recommended that the following precautionary statements be incorporated into the label:

Warning: Keep Out of Reach of Children. Causes eye irritation . Do not get in eyes, on skin, or on clothing. Harmful if swallowed, or absorbed through the skin. Avoid contamination of food.

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

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantitites of water. Avoid alcohol. Call a physician.

Classification: It is recommended the product be classified General Use.

* No RPAR criteria have been exceeded.

Review

1. Acute Toxicity of Rumianca Technical Atrazine - (Istituto Di Ricerche Biomediche, Dec 76/Jan 77, submitted by Rumianca S. p. A. on August 29, 1977, Acc # 231466)

A. Acute Oral LD_{50}

In an initial range finding study 8 groups of 2 male and 2 female Wistar rats per group, weighing 100-150g, were administered 0.300, 0.479, 0.759, 1.202, 1.905, 3.020, 4.786 or 7.586 g/kg of the test material by gavage. Following the results of this study an additional 8 groups of 5 male and 5 female per group were administered 1.202, 1.513, 1.698, 1.905, 2.137, 2.398, 2.691 or 3.019 g/kg of the test material by gavage. During the 14 day observation period, records were made of all mortalities and signs of toxicity. All animals were necropsied.

Results

A LD_5 = 1.202 - 3.020 g/kg
LD_{50} = 2.030 g/kg 95% C. I. (1.83-2.25)g/kg; slope = 1.27

Toxic Signs: tremors, ataxia, anorexia, piloerection, loss of body weight.
Necropsy: congestion of lungs, liver and kidneys; adrenal degeneration.

Tox Category: III

Classification: Core - Minimum Data

1) Body weight and food consumption data were not recorded daily.

B. Acute Dermal LD_{50}

New Zealand White rabbits, weighing 2-3 kg were employed. Animals were distributed into 3 groups of 2(1M + 1F) for the range finding experiment and into 3 groups of 2(1M +1F) for the final experiment. Dermal applications of test material consisted of 3.9., 6.4 or 9.4 g/kg in the range finding experiment and 6.0, 7.5 or 9.506 g/kg in the final experiment. Animals had their backs slipped 24 hours prior to application. The test material was applied to intact skin under an impervious wrapping and left in contact with the skin for 24 hours, after which time, the wrapping was removed and all the residual material wiped off. Mortalities and signs of toxicity were recorced for 14 days. All animals were recropsied.

Results

ALD_{50} = 6.0-9.0 g/kg
LD_{50} = 7.55 g/kg 95% C. I. (5.74-9.94) g/kg; slope = 1.41
Toxic Signs: anorexia, ataxia, loss of body weight.
Necropsies: congestion of lungs, liver and kidneys.
Tox Category: III
Classfication: Core - Minimum Data
1) Body weight and food consumption were not recorded daily.

C. Primary Dermal Irritation

0.5 g of the test material, premoistened with physiological saline was applied to one intact and one abraded skin site on the clipped skin of the backs of six New Zealand White rabbits, weighing 2-3 kg. After 24 hours of exposure, the patches were removed, the residual material wiped off, and the resulting reactions scored according to Draize. Readings were again made at 72 hours.

Results

Tox Category: IV
Classification: Core-Minumum Data
1) readings were not made on 2 intact and 2 abraded skin sites.

D. Primary Eye Irritation

0.1 ml of an aq. suspension containing 50 mg of the test material was instilled into the right eye of each of 6 New Zealand White rabbits. Eyes were scored 1 minute, 1 hour, 24 hours, 72 hours, and 7 and 14 days post-instillation. The Draize scoring system was employed.

Results

Minimal corneal opacity was present at 1 hour up to and including 72 hours. Conjunctivitis was present at 24 and 72 hours. No irritation was observed at 7 and 14 days.

Tox Category: II
Classification: Core-Minimum Data
1) although mean scores were reported, the results are definitive.

E. Acute Inhalation LC_{50}

Wistar strain rats, weighing 100-150g, were employed. Rats in the range finding experiment were divided into 3 groups of 4 animals each (2M + 2F) and exposed to concentrations of 0.5, 1.0 or 2.0 mg/L of the test material for a 4 hour period. Based on the negative results, in the final experiment 4 groups of 10 animals each (5M + 5F) were exposed to 0, 0.5, 1.0 or 2.0 mg/L of the test material for a 4 hour period in a 60L exposure chamber. The atmosphere was generated with a type D_3 Faset-Milan atomizer capable of producing particles ranging in size from 0.5 - 7.0 u. Observations for mortality and signs of toxicity were made for 14 days following exposure. All animals were necropsied.

Results

$LC_{50} > 2.0$ mg/L for t=4hr {no deaths occurred}
Toxic Signs: none
Necropsy: unremarkable
Tox Category: III
Classification: Core Minimum Data
1) the analytical concentration was not determined.

William Greear

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B for GEW 11/20/78