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Registration Action Branch 2 (7509C)

4-14-99

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DATA EVALUATION RECORD

STUDY TYPE: Acute Dermal Toxicity - Rat
OPPTS Number: 870.1200 OPP Guideline Number: §81-2

DP BARCODE: D241232 SUBMISSION CODE: S534142
P.C. CODE: 070705 TOX. CHEM. NO.:
EPA REG. NO.: 3125-LRE

TEST MATERIAL (PURITY): KBR 3023 (99.4% purity)

SYNONYMS: 2-(2-Hydroxyethyl)-1-piperidinecarboxylic acid; 1-(1-methylpropoxycarbonyl)-2-(2-hydroxyethyl)piperidine; 1-methylpropyl 2-(2-hydroxyethyl)-1-piperidine-carboxylate

CITATION: Kroetlinger, F. (1993) KBR 3023: investigations of acute dermal toxicity in rats. Bayer AG, Department of Toxicology, Wuppertal, Germany. Laboratory Study Number T7029600. June 18, 1993 (in-life dates, May 1988). MRID 44408708. Unpublished.

SPONSOR: Bayer Corporation, Agricultural Division, 17745 S. Metcalf, Stilwell, KS.

EXECUTIVE SUMMARY: In an acute dermal toxicity study (MRID 44408708), five young adult male SPF-bred Wistar rats were dermally exposed to KBR 3023 (99.4% purity) at 5,000 mg/kg (2.5X limit dose) for 24 hours; the test substance was mixed with cellulose powder and applied to >10% of the total body surface area. Animals were observed for clinical signs of toxicity and mortality for up to 14 days postdosing.

LD_{50} (Males) >5,000 mg/kg (females not tested)
NOAEL (Males) >5000 mg/kg
NOEL (Males) = 5000 mg/kg

KBR 3023 is classified as **TOXICITY CATEGORY III** based on the observed LD_{50} value in male animals; data for females were not generated.

All males survived and appeared normal during the 14-day observation period. No significant effect on body weight was observed, and necropsy after 14 days revealed no treatment-related gross abnormalities.

Since the acute dermal toxicity of females was not investigated, this study does not satisfy the guideline requirement for an acute dermal study in the rat and is classified **unacceptable (§81-2)**. This study may be upgraded to acceptable status if an adequate explanation as to why female animals were not included is provided.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

I. MATERIALS AND METHODS

A. MATERIALS:

1. Test Material: KBR 3023
   Description: Yellowish clear liquid
   Lot/Batch #: 19001/87
   Purity: 99.4%
   CAS #: 119515-38-7

2. Vehicle: To eliminate runoff, the test material was amended with cellulose powder, 300 mg/g, just prior (<1 hour) to application.

3. Test animals: Species: Rat (males only)
   Strain: Bor:WISW(SPF-Cpb)
   Age: Young adult (approximately 9 weeks)
   Weight: 213-227 g males
   Source: Winkelmann, Borchen, Kreis Paderborn
   Acclimation period: ≥7 Days
   Diet: Altromin R 1324 Diet for Rats and Mice, *ad libitum*
   Water: Tap water, *ad libitum*
   Housing: Five/cage
   Environmental conditions:
   Temperature: 22 ± 3°C
   Humidity: Approximately 50%
   Air changes: ≥10/Hour
   Photoperiod: 12-Hour light/dark cycle

B. STUDY DESIGN and METHODS:

1. In-life dates: May 1988

2. Animal assignment and treatment: Fur from the back areas of five young adult male SPF-bred Wistar Dawley rats was clipped 1 day prior to dermal administration of

KBR 3023 at 5,000 mg/kg (2.5X limit dose). The test substance (a liquid) was mixed with cellulose powder on a 6.5- x 6.5-cm (42.25 cm^2; >10% of the total body surface area) piece of aluminum foil, and the foil was applied to the clipped skin (method of securing patch was not described). Following a 24-hour exposure period, the patches were removed and the test sites were gently cleaned with soap and water. The rats were observed for signs of toxicity, dermal irritation, and/or mortality "several times" on the day of (following) administration, and at least once daily thereafter for up to 14 days. Body weights were recorded at 0 (prior to dosing), 3, 7, and 14 days. At 14 days, surviving animals were sacrificed, necropsied, and examined for gross pathological changes.

3. Statistics: Not applicable to this study.

II. RESULTS AND DISCUSSION:

A. Mortality: All animals survived the 14-day observation period.

Dermal LD_{50} >5,000 mg/kg (males; females not tested)

B. Clinical observations: No treatment-related signs of toxicity nor dermal irritation were observed.

C. Body Weight: Upon comparison of the 0-, 7-, and 14-day data, no significant treatment-related effect body weight was observed. All males gained weight during the study, with an overall (0-14 days) average increase of 26%.

D. Necropsy: Necropsy of animals sacrificed after 14 days revealed no treatment-related gross abnormalities.

E. Deficiencies: The acute dermal toxicity of females was not investigated in this study, and no explanation was provided. As a result, this study does not fulfill guideline requirements and is deemed unacceptable. This study may be upgraded to acceptable status if an adequate explanation as to why female animals were not included is provided.