

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

October 21, 1994

TO: File for AD Acid (No CAS #)  
FROM: Marco Bianchi  
SUBJECT: Initial Threshold Screening Level

The initial threshold screening level (ITSL) for AD Acid is  $17 \mu\text{g}/\text{m}^3$  based on an annual averaging time.

The following references or databases were searched to identify data to determine the ITSL: IRIS, HEAST, NTP Management Status Report, RTECS, EPB-CCD, EPB library, CAS-online, NLM-online, IARC, NIOSH Pocket Guide, and ACGIH Guide.

A complete reference check was conducted for AD Acid, but only limited information was available. Upjohn provided an in-house oral  $\text{LD}_{50}$  study for AD Acid. Two groups of four male albino rats were given a single oral dose of 5000 mg/kg body weight of AD Acid suspended in a 0.25% methylcellulose solution. Within three hours post dosing, three of the four rats developed salivation and stiff hind legs. The stiff hind legs of each rat were spread apart and jerked forward in such a manner that each rat appeared to jump backward. Two of the three affected rats also had convulsions and were sensitive to touch. By six hours post dosing, these three rats showed only dried material crusted around the mouth.

At one day post dosing, the previously unaffected rat developed brown staining on the around the anogenital area and then crusty red material around the mouth. This rat also appeared slow and weak on day three post dosing and had body weight loss for four days post dosing.

At day five post dosing, three of the four rats appeared normal, gained weight thereafter for the remainder of the 14 day study. Necropsy of the three rats at terminal euthanasia did not reveal any gross lesions. The remaining rat deteriorated by becoming weak, unkept, and emaciated. This rat died on day six post dosing. Necropsy of the this rat revealed brown liquid stomach and intestinal contents, a dark red liver and petechia in the non-glandular portion of the stomach.

At a dose of 2500 mg/kg, all four rats appeared normal and had body weights exceeding their fasting weights from day one and thereafter for the rest of the 14-day study period. Necropsy of the four rats at terminal euthanasia did not reveal any gross lesions.

Although there were no deaths from compound administration at 5000 mg/kg, this value will be used as a surrogate to calculate an ITSL.

The ITSL was derived as follows:

The  $\text{LD}_{50}$  for this study was determined to be 5000 mg/kg.

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$\text{LD}_{50} = 5000 \text{ mg/kg}$

$$\text{ITSL} = \frac{1}{500} \times \frac{1}{40} \times \frac{1}{100} \times \frac{5000}{0.167 \times 0.900} = 0.0166 \text{ mg/kg}$$

0.0166 mg/kg x 1000 = 17  $\mu\text{g}/\text{m}^3$  based on annual averaging.

The ITSL for AD Acid = 17  $\mu\text{g}/\text{m}^3$  based on annual averaging.

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