

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

September 29, 2003

TO: 5-amino-1H-1,2,4-triazole-3-sulfonyl chloride file (CAS # 129879-84-1)

FROM: Gary Butterfield, Toxics Unit, Air Quality Evaluation Section
Air Quality Division

SUBJECT: Screening level for 5-amino-1H-1,2,4-triazole-3-sulfonyl chloride

5-Amino-1H-1,2,4-triazole-3-sulfonyl chloride is also known as ASC. This material is a white solid at ambient temperatures.

The following references or databases were searched to identify data to determine the screening level: U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS), National Institute for Occupational Safety and Health (NIOSH) Registry for Toxic Effects of Chemical Substances (RTECS), American Conference of Governmental and Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), Michigan Department of Environmental Quality (DEQ) library, International Agency for Research on Cancer (IARC) Monographs, Chemical Abstract Service (CAS) Online (1968 - May 2003), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report.

The CAS and NLM on-line literature searches were conducted on May 5, 2003. No toxicity information was located during the literature searches. Dow provided a summary of an unpublished internal rat acute oral study, Dow/Wall and Yano (1988). A group of 3 fasted male F344 rats were administered ASC via gavage at a dose level of 2,000 mg/kg. The ASC was suspended in corn oil. One rat died on day 5 of the observation period due to a trauma secondary to the gavage dosing. The other two rats were normal and steadily gained body weight over the two week observation period. For the purposes of setting a screening level, it can be assumed that the LD50 would be greater than 2,000 mg/kg. The ITSL can be calculated using the 2,000 mg/kg as if it were an LD50, in the equation from R232(1)(h) as follows.

$$\text{ITSL} = \frac{2,000 \text{ mg/kg}}{500 \times 40 \times 100 \times 0.167} \times \frac{1 \text{ kg}}{0.9 \text{ m}^3} = 7 \text{ ug/m}^3 \text{ annual average}$$

The default rat inhalation rate of 0.9 m³/kg was used in the above calculation.

As a solid at ambient temperatures, there needs to be some consideration of possible airborne concentration that may have an impact on airborne particulate matter being increased to concentrations greater than the PM NAAQS.

References:

Dow/Wall and Yano. 1988. 5-Amino-1,2,4-triazole-3-sulfonyl chloride: acute toxicologic properties. Lab Report # DR-0293-5446-001. Summary submitted by Dow to DEQ Air Quality Division.