

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY**

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**INTEROFFICE COMMUNICATION**

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January 18, 2002

TO: T-Butyldiethanolamine File (CAS #2160-93-2)  
FROM: Gary Butterfield, Toxics Unit, Air Quality Division  
SUBJECT: Screening Level for T-Butyldiethanolamine

Tert-Butyldiethanolamine is also known as N-tert-butyldiethanolamine, or 2,2'-[(1,1-dimethylethyl)imino] bisethanol. T-Butyldiethanolamine has a molecular weight of 161.24.

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 (1967- Dec 2001), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report.

The CAS and NLM on-line literature searches were conducted on December 13, 2001, in order to locate relevant toxicity information. Only one article was found to be available that could be used to establish a screening level. Ballantyne and Leung (1996) reported a male rat oral LD50 of 2717 mg/kg with a 95% CI of 1546 to 4781.

The screening level will be determined from the LD50 and the equation from R232(1)(h) as follows:

$$\text{ITSL} = (2717 \text{ mg/kg}) / (500 \times 40 \times 100 \times 0.167) \times 1 \text{ kg} / 0.9 \text{ m}^3$$

$$\text{ITSL} = 9 \text{ } \mu\text{g}/\text{m}^3 \text{ annual avg.}$$

Where the default rat inhalation rate of 0.9 m<sup>3</sup>/kg was used.

**References**

Ballantyne and Leung. 1996. Acute toxicity and primary irritancy of alkylalkanolamines. Vet Human Toxicol 38:422-6.

GB:DB

cc: Cathy Simon, AQD

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Sheila Blais, AQD