

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Neopentyl Glycol file (CAS # 126-30-7)
FROM: Gary Butterfield
SUBJECT: Screening level for Neopentyl Glycol
DATE: March 25, 2008

Neopentyl Glycol is also known by the chemical name of 2,2-dimethyl-1,3-propanediol. It is a solid, with melting point of 127C, and a boiling point of 208C. The vapor pressure is 0.22 mmHg at 20C. The molecular formula is C₅H₁₂O₂. The molecular weight is 104.2 g/mol.

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 - March 2008), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report.

The CAS and NLM on-line literature searches were conducted on March 24, 2008. There is no published toxicity information available for this chemical.

Secondary references (RTECS, SIDS) cite a manufacturer's (Eastman Kodak 1971) rat LD50 of 3200 mg/kg. It should be noted that in 1971 there were no GLP testing guidelines yet established. It is necessary to have a full report to know what exact test methods were actually used. However, no details of this study are available – strain of rat, number of animals used, method of LD50 calculation, etc. – making this LD50 value of no use for setting a screening level.

The SIDS document also describes an unpublished Japanese six week reproduction / developmental study. Sprague-Dawley rats were administered 0, 100, 300, or 1000 mg/kg for 14 days before mating until day 3 of lactation – total duration of 43 days. The high two doses caused increased liver and kidney weights in the paternal rats. The highest dose level also had some related histopathology changes. The NOAEL from

this study was reported to be 100 mg/kg. Not having the full report available makes this study information not useable for screening level development.

Although there is some limited toxicity information available, there are insufficient details on these studies available to be adequate for use in setting a finalized screening level. Due to a lack of utilizable toxicity information, the ITSL for neopentyl glycol will be set at the default screening level of 0.1 ug/m³ with annual averaging under R232(1)(i).

References:

SIDS. Screening information data sets. OECD high production volume chemicals program. Available at the following web site:

<http://www.epa.gov/oppt/chemrtk/pubs/summaries/prpacd3h/c16470rs.pdf>

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