MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: Diisobutylene file (CAS # 107-39-1)

FROM: Gary Butterfield

SUBJECT: Screening level for Diisobutylene

DATE: April 28, 2008

Diisobutylene is also known as 2,4,4-trimethyl-1-pentene. Diisobutylene is a colorless liquid. The molecular formula is C_8H_{16}. The molecular weight is 112.2 g/mol. The melting point is -93C. The boiling point is 101C. The vapor pressure is 44.7 mmHg at 25C.

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 originally conducted on March 5, 2008. There were no published toxicity studies located to evaluate the toxicity of this material. The American Industrial Hygiene Association has set a workplace environamental exposure level (WEEL) value of 600 ppm for diisobutylene based on the similarity to butane. The butane TLV of 600 ppm is based on the potential asphyxiant hazard. The WEEL documentation does cite a couple of unavailable, unpublished industry owned and confidential LD and LC50 studies.

Due to a lack of available toxicity information the ITSL is being set at 0.1 ug/m3 with annual averaging under R232(1)(i).