

## Michigan Department of Environmental Quality

### Interoffice Communication

TO: File for 1,2-Dibromoethylene (CAS # 540-49-8)  
FROM: Doreen Lehner, Toxics Unit, Air Quality Division  
SUBJECT: Screening Level for 1,2-Dibromoethylene (CAS # 540-49-8)  
DATE: May 10, 2011

The initial threshold screening level (ITSL) for 1,2-dibromoethylene (CAS # 540-49-8) is 0.1  $\mu\text{g}/\text{m}^3$  annual averaging time.

1,2-Dibromoethylene (CAS # 540-49-8) is also known as 1,2-Dibromoethene, acetylene dibromide, and 2-bromovinyl bromide is a clear colorless to light yellow liquid that has two isomers, a "cis" form and a "trans" form having a molecular weight of 185.86. 1,2-Dibromoethylene is used as a research chemical; in the preparation of deltamethrin (a pyrethroid insecticide); and is a common fumigant for treatment of logs for termites and beetles, as well as for control of moths in beehives. The trans form of 1,2-dibromoethylene is shown below.



A literature review was conducted to determine an initial threshold screening level (ITSL) for 1,2-dibromoethylene. The following references and databases were searched to derive the above screening level: EPBCCD, United States Environmental Protection Agency (US EPA) Integrated Risk Information System (IRIS), National Institute for Occupational Safety and Health (NIOSH), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values and Biological Exposure Indices (TLV/BEI) 2010 guide, National Toxicology Program (NTP) Study Database, International Agency for Research on Cancer (IARC), Acute Database, Chemical Abstract Service (CAS) Online (searched 5/4/11), National Library of Medicine (NLM)-online, EPA Aggregated Computational Toxicology Resource (ACToR) Database, US EPA TSCATS database, and Hazardous Substances Data Bank (HSDB).

RfC or RfD values were unavailable. There is no NIOSH recommended exposure limit data available for this compound or a threshold limit value from ACGIH. No 7-day inhalation studies that would yield a LOAEL or NOAEL and no acute inhalation data where an  $\text{LC}_{50}$  can be derived. Based on Rule 232(1)(i) the ITSL is set at the default of 0.1  $\mu\text{g}/\text{m}^3$ . According to Rule 232(2)(c), the averaging time is annual.

Based on the above data, the initial threshold screening level (ITSL) for 1,2-dibromoethylene (CAS # 540-49-8) is 0.1  $\mu\text{g}/\text{m}^3$  annual averaging time.

#### References:

Act 451 of 1994, Natural Resources and Environmental Protection Act and Air Pollution Control Rules, Michigan Department of Environmental Quality.

DL:lh