

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: File for Ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer (CAS # 68037-77-4)

FROM: Doreen Lehner, Toxics Unit, Air Quality Division

DATE: February 21, 2013

SUBJECT: Screening Level for ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer (CAS# 68037-77-4)

The initial threshold screening level (ITSL) for ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer (CAS # 68037-77-4) is $0.1 \mu\text{g}/\text{m}^3$ with an annual averaging time.

Ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer (also known as phenylpropylethylmethicone; Dow Corning@ 230 fluid; and siloxanes and silicones, EtMe,Me2-phenylpropyl) has a molecular weight of 120.29778. It is an organosilicate and is a clear to hazy, light yellow liquid. Ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer is used: as a mold release agent for plastics and rubber; external lubricant for rubber parts in mechanical applications; and in the manufacture of wood and cork.

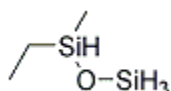


Figure 1. Structure of ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer

A literature review was conducted to determine an initial threshold screening level (ITSL) for ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer. The following references and databases were searched to derive the above screening levels: CCD, 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) 2012 guide, National Toxicology Program (NTP) Study Database, International Agency for Research on Cancer (IARC), Acute Database, Chemical Abstract Service (CAS) Online (searched 2/19/13), 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 value from ACGIH. No seven-day inhalation studies that would yield a LOAEL or NOAEL and no acute inhalation data where an LC₅₀ can be derived. Based on Rule 232(1)(i) the ITSL is set at the default of 0.1 µg/m³. According to Rule 232(2)(c), the averaging time is annual.

Based on the above data, the initial threshold screening level (ITSL) for ethylmethylsiloxane, 2-phenylpropylmethylsiloxane copolymer (CAS # 68037-77-4) is 0.1 µg/m³ with an annual averaging time.

References:

APCR. 2013. Air Pollution Control Rules, Promulgated pursuant to Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, Michigan Department of Environmental Quality. 1994, Act 451, as amended (NREPA).

DL:lh