

Michigan Department of Environmental Quality

Interoffice Communication

TO: File for Phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate (CAS # 55818-57-0)

FROM: Doreen Lehner, Toxics Unit, Air Quality Division

SUBJECT: Screening Level for Phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate (CAS # 55818-57-0)

DATE: December 6, 2012

The initial threshold screening level (ITSL) for phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate (CAS # 55818-57-0) is 0.1 $\mu\text{g}/\text{m}^3$ annual averaging time.

Phenol,4,4,-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate is also known as 4,4'-isopropylidenediphenol, oligomeric reaction product epoxypropane, esters with acrylic acid and bisphenol A-epochlorohydrin acrylate has a molecular weight of 392.873 and is a transparent clear liquid. It is used as a gloss varnish for paper wood coating, and a vehicle for ink for metal decorations.

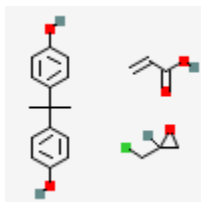


Figure 1. Chemical structure of phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate

A literature review was conducted to determine an initial threshold screening level (ITSL) for phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propenate. 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) 2012 guide, National Toxicology Program (NTP) Study Database, International Agency for Research on Cancer (IARC), Acute Database, Chemical Abstract Service (CAS) Online

(searched 10/31/12), 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 which 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 data above the initial threshold screening level (ITSL) for phenol, 4,4-(1-methylethylidene)bis, polymer with (chloromethyl)oxirane, 2-propionate (CAS # 55818-57-0) is 0.1 µg/m³ 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