

MICHIGAN DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT

INTEROFFICE COMMUNICATION

TO: File for Cyclohexylbenzene (CAS # 827-52-1)

FROM: Doreen Lehner, Toxics Unit, Air Quality Division

DATE: September 17, 2010

SUBJECT: Screening Level for Cyclohexylbenzene (CAS # 827-52-1)

The initial threshold screening level (ITSL) for cyclohexylbenzene is 0.1 µg/m³ based on an annual averaging time.

Cyclohexylbenzene (CAS #827-52-1) is a colorless oil-like liquid with a molecular weight of 160.28 and a high boiling-point. It is used as a penetrant, an intermediate in organic synthesis, and is also used in mixtures with biphenyl as an electrolyte additive for overcharge protection of lithium-ion batteries.

A literature review was conducted to determine an Initial threshold screening level (ITSL) for cyclohexylbenzene. The following references and databases were searched to derive the above screening level: EPBCCD, United States Environmental Protection Agency Integrated Risk Information System (IRIS), National Institute for Occupational Safety and Health (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values and Biological Exposure Indices (TLV/BEI) 2008 guide, National Toxicology Program (NTP) Study Database, International Agency for Research on Cancer (IARC), Acute Database, Chemical Abstract Service (CAS) Online, National Library of Medicine (NLM)-online, EPA Aggregated Computational Toxicology Resource (ACToR) Database, EPA Toxic Substance Control Act Test Submission Database (TSCATS) and Hazardous Substances Data Bank (HSDB). RfC or RfD values were unavailable. There is no NIOSH recommended exposure limit data available or an ACGIH TLV for this compound. No data on no-observed-adverse-effect-levels (NOAELs) or lowest-observable-adverse-effect-levels (LOAELs) were found. There are no verifiable LD50 studies which could be used for risk assessment. 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 for this ITSL is annual.

Based on the above data, the initial threshold screening level (ITSL) for cyclohexylbenzene is 0.1 µg/m³ based on an annual averaging time.

Reference:

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

DL:lh