

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

TO: File for 3,4-Dimethylphenol [CAS# 95-65-8]

FROM: Doreen Lehner, Toxics Unit, Air Quality Division

DATE: January 13, 2017

SUBJECT: 3,4-Dimethylphenol [CAS# 95-65-8] ITSL change in the averaging time from 24 hours to annual

The current initial threshold screening level (ITSL) for 3,4-dimethylphenol is 3.5 µg/m³ based on an annual averaging time. The ITSL was established on 1/10/2002 based on the EPA's oral reference dose (RfD) of 0.001 mg/kg/day (1 µg/kg). The EPA's RfD is based on a one year feeding study in rats (Veldre and Janes, 1979). In 2002, the averaging time was set at 24 hours. The ITSL may be appropriately set to an annual averaging time to reflect the duration of the study. Therefore, the averaging time is being changed from 24 hours to annual at this time.

References:

APCR. 2016. 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).

EPA. 2001. Integrated Risk Information System (IRIS). 3,4-Dimethylphenol CASRN 95-65-8. Available online at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=231

Veldre IA, and Janes HJ. 1979. Toxicological studies of shale oils, some of their components, and commercial products. Environ. Health Perspect. 30:141-146.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

January 10, 2002

TO: 3,4-Dimethylphenol File (CAS #95-65-8)
FROM: Gary Butterfield, Toxics Unit, Air Quality Division
SUBJECT: Screening Level for 3,4-Dimethylphenol

The initial threshold screening level (ITSL) for 3,4-dimethylphenol is being set at $3.5 \mu\text{g}/\text{m}^3$ with 24-hour averaging.

3,4-Dimethylphenol is also commonly known as 3,4-xlenol or 3,4-DMP. Dimethylphenol is a crystalline solid with a molecular weight of 122.18.

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 (1967- July 2000), National Library of Medicine (NLM) - Toxline, and National Toxicology Program (NTP) Status Report.

On-line literature searches were conducted on May 22, 2001 of the CAS and on May 21, 2001 of NLM. The literature searches found that there is very little toxicity information available on this chemical.

There is an EPA RfD of $1 \mu\text{g}/\text{kg}$ for 3,4-DMP. This RfD is based on a one year feeding study reported by Velder and Janes (1979). The rat NOEL in this study was found to be $1.4 \text{ mg}/\text{kg}$. Applying an uncertainty factor of 1000 resulted in the RfD value.

Since there is no evidence to indicate that oral route to inhalation route exposure extrapolation is inappropriate, and there is a lack of any other available toxicity information, the ITSL is being set using the oral RfD, under R232(b) as follows.

$\text{ITSL} = 1 \mu\text{g}/\text{kg} \times (70\text{kg}/20\text{m}^3) = 3.5 \mu\text{g}/\text{m}^3$ with 24-hour averaging

References:

EPA. 2001. Integrated Risk Information System (IRIS).

Velder and Janes. 1979. Toxicological studies of shale oils, some of their components and commercial products. Environ Health Perspectives 30: 141-6.

GB:DB

cc: Cathy Simon, AQD
Mary Lee Hultin, AQD
Sheila Blais, AQD