

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

INTEROFFICE COMMUNICATION

November 2, 2015

TO: 2,6-Dimethylphenol File (CAS #576-26-1)
FROM: Mike Depa, Air Quality Division, Toxics Unit
SUBJECT: ITSL Derivation

Previously, the averaging time (AT) assigned to 2,6-dimethylphenol was 24 hours, as per the default methodology (Rule 232(2)(b))(see attached memo from Gary Butterfield dated January 10, 2002). The current file review concludes that the AT may appropriately be set at annual, based on the nature and duration of the key study and the ITSL value derivation, as allowed under Rule 229(2)(b). Therefore, the AT is set to annual.

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INTEROFFICE COMMUNICATION

January 10, 2002

TO: 2,6-Dimethylphenol File (CAS #576-26-1)
FROM: Gary Butterfield, Toxics Unit, Air Quality Division
SUBJECT: Screening Level for 2,6-Dimethylphenol

The initial threshold screening level (ITSL) for 2,6-dimethylphenol is being set at 2 $\mu\text{g}/\text{m}^3$ with 24-hour averaging.

2,6-Dimethylphenol is also commonly known as 2,6-xylenol or 2,6-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.

There are a few occupational studies that report amounts of 2,6-DMP being found in coke oven workers urine. Little details of exposure levels, and no evaluation of toxicological effects make these studies inadequate to provide the basis to calculate a screening level.

The EPA has an RfD of 0.6 $\mu\text{g}/\text{kg}$ for 2,6-DMP. This RfD is based on an eight month feeding study reported by Velder and Janes (1979). The rat NOEL in this study was found to be 0.6 mg/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 is inappropriate, and there is a lack of any other available toxicity information, the ITSL is being set on the oral RfD, under R232(b) as follows: $\text{ITSL} = 0.6 \mu\text{g}/\text{kg} \times (70\text{kg}/20\text{m}^3) = \mu\text{g}/\text{m}^3$ 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

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