

**STATE OF MICHIGAN
Rick Snyder, Governor**



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October 4, 2017

**Response to Public Comments for
Dipropylene glycol monopropyl ether (CAS # 29911-27-1)**

Summary:

Based on public comments, the Air Quality Division (AQD) has reviewed the Initial Threshold Screening Level (ITSL) for dipropylene glycol monopropyl ether. Based on that review, the AQD agrees with the commenter that the ITSL is outdated and no longer appropriate. A 90-day study was used to calculate an ITSL of 180 $\mu\text{g}/\text{m}^3$ (annual averaging time). The previous ITSL of 5 $\mu\text{g}/\text{m}^3$ (annual averaging time) is being rescinded.

Background:

Revisions to the Air Pollution Control Rules¹ were promulgated December 22, 2016. Subsequently, the Michigan Department of Environmental Quality (MDEQ), AQD published toxic air contaminant screening levels and their basis as required by Rule 230(1). Pursuant to Rule 230(2), the AQD solicited and received public comments on these screening levels for 60 days: February 14 through April 14, 2017. The AQD must respond to these comments within 180 days; the latest date for response is October 11, 2017.

¹ Air Pollution Control Rules in Michigan Administrative Code promulgated pursuant to Article II Pollution Control, Part 55 (Sections 324.5501-324.5542), Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994. PA 451, as amended (NREPA).

Comments and Responses:

Comment:

The reference information is significantly outdated. Many toxicity studies have been conducted for DPNP (see <https://echa.europa.eu/registration-dossier/-/registered-dossier/5828/7/9/3>). The database of toxicology information for DPNP supports that DPNP is a low concern to human and environmental health.

Response:

The AQD reviewed the reports referenced in the comment, including the toxicological information contained in the European Chemical Agency (ECHA) registration dossier for 1-(1-methyl-2-propoxyethoxy)propan-2-ol (also known as DPnP). AQD agrees with the commenter. The original ITSL was based on an oral LD50 study on female rats of 1500 mg/kg. The 90-day oral repeated dose toxicity study reported in the ECHA registration dossier for DPnP is the most relevant key study for the derivation of an ITSL. The 90-day oral study dosed groups of male and female 344 rats (10/sex/dose level) to either 0, 50, 150, or 500 mg/kg/day DPnP in drinking water. The authors of the study reported a no observable effect level (NOEL) of 150 mg/kg/day. Due to the higher absolute and relative thymus weights in males dosed at 150 mg/kg/day DPnP, this level is considered a lowest observable adverse effect level (LOAEL). The lack of any reported effects at the 50 mg/kg/day dose level would make this the no observable adverse effect level (NOAEL) for the study. The NOAEL of 50 mg/kg/day was used to derive a reference dose (RfD) of 0.05 mg/kg/day. The RfD was used under Rule 232(1)(b) to calculate an ITSL of 180 µg/m³ (annual averaging time).

Summary and Conclusions:

Based on an updated literature review, AQD agrees with the commenter that the ITSL basis was outdated and not the most appropriate. The AQD found toxicity data appropriate to use to derive an ITSL of 180 µg/m³ (annual averaging time). The previous ITSL of 5 µg/m³ (annual averaging time) is being rescinded.

The primary AQD reviewer for these comments was Doreen Lehner, AQD Toxicologist. The secondary (peer) reviewer was Mike Depa, AQD Toxicologist.

References:

ECHA. 2017. European Chemicals Agency. Registration file for 1-(1-methyl-2-propoxyethoxy)propan-2-ol (CAS Number 29911-27-1). Accessed on 9/21/2017. Available online at: <https://echa.europa.eu/registration-dossier/-/registered-dossier/5828/7/6/2>