



Dipropylene glycol mono methyl ether (Dipropylene glycol methyl ether)

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Dipropylene glycol mono methyl ether is a clear, colorless liquid with a slight ether odor. It is completely soluble in water and has moderate volatility [DOW].

Usage and exposure:

Dipropylene glycol mono methyl ether is used:

- Solvents – for paints, varnishes, inks, strippers, and degreasers;
- Coalescing agents – for water-based paints and inks – promotes polymer fusion during the drying process;
- Coatings – for automotive, architectural, industrial maintenance, wood and coil coatings, and metal finishing;
- Chemical intermediates – for the manufacture of Dipropylene glycol monomethyl ether acetate (DPMA);
- Chemical additives – for the oil production and drilling industry.
- Dipropylene glycol mono methyl ether is formulated into a wide variety of household and commercial products including:
 - Cleaning products – glass, surface, paint brush, all-purpose, sanitary/disinfectant, and carpet cleaners;
 - Ceiling and wall paints;
 - Cosmetics – solvent and coupler with emollient properties and product stabilizer;
 - Floor polish;
 - Industrial degreasers;

- Aluminum polishers/brighteners;
- Leather and textile dyes;
- Rust removers;
- Pesticides – as a stabilizer [DOW].

Routs of exposure:

Inhalation, skin absorption, ingestion, skin and/or eye contact [CDC].

Workplace exposure can occur either in Dipropylene glycol mono methyl ether manufacturing facility or in the various industrial or manufacturing facilities that use Dipropylene glycol mono methyl ether. Those working with Dipropylene glycol mono methyl ether in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures [DOW].

The primary potentials for occupational exposure to Dipropylene glycol mono methyl ether are skin contact or vapor inhalation [DOW].

Target organ:

Eyes, respiratory system, central nervous system [CDC].

Health hazards:

Irritation eyes, nose, throat; lassitude (weakness, exhaustion), dizziness, headache [CDC].

There is no acute toxicity data are available on which to base an IDLH (Immediately Dangerous to Life or Health concentration) for Dipropylene glycol methyl ether. This substance is low in toxicity by inhalation. Concentrations between 300 and 400 ppm have been reported to be very disagreeable. Central nervous system impairment (undefined) occurred at 1,000 ppm in one of two subjects [CDC_1].

OSHA is retaining a PEL of 100 ppm TWA and adding a STEL of 150 ppm for Dipropylene glycol methyl ether. The Agency concludes that this combined limit will substantially reduce the significant risks of central nervous system effects and irritation, which constitute material health impairments, that exist when workers are exposed to Dipropylene glycol mono methyl ether for short periods above the 100-ppm PEL [NIOSH].

Eye contact with Dipropylene glycol mono methyl ether may cause slight temporary irritation. Corneal injury is unlikely. Prolonged skin contact is not likely to cause significant irritation. However, prolonged contact with very large amounts may cause drowsiness. Excessive inhalation of Dipropylene glycol mono methyl ether vapors or mist may cause irritation to upper respiratory tract. Symptoms of excessive exposure may be anesthetic or narcotic effects. The oral toxicity of Dipropylene glycol mono methyl ether is considered to be very low. Swallowing small amounts incidental to normal handling is not likely to cause injury. Swallowing larger amounts may result in injury [DOW].

References:

- CDC, Centers for Disease Control and Prevention. NIOSH Pocket Guide to Chemical Hazards. Dipropylene glycol methyl ether. <https://www.cdc.gov/niosh/npg/npgd0241.html>
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- DOW. The Dow Chemical Company. Product Safety Assessment DOWANOL™ DPM Glycol Ether [Dipropylene Glycol Monomethyl Ether]. http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh_096d/0901b8038096dc1f.pdf?filepath=productsafety/pdf
- NIOSH. CDC, Centers for Disease Control and Prevention. NIOSH. 1988 OSHA PEL Project Documentation. DIPROPYLENE GLY. <https://www.cdc.gov/niosh/pel88/34590-94.html>