



Carolina International Sales Co., Inc

## MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

www.ciscochem.com

PRODUCT NAME: Dipropylene Glycol Methyl Ether

CHEMICAL NAME: Dipropylene Glycol Methyl Ether

SYNONYMS: Dipropylene Glycol Monomethyl Ether

CAS NUMBER: 34590-94-8

PROPERTIES: Appearance/General info: colorless with a mild ether odor in moderate concentrations but a strong objectionable odor at 1000 ppm.  
Physical State: Liquid  
Odor threshold: 210 mg/m<sup>3</sup> odor low; 6000 mg/m<sup>3</sup> odor high  
Vapor pressure (kPa): 0.3 mm Hg at 68 F (20 c); 0.4 mm Hg at 79 F (26 c)  
Formula Weight: 148.2  
Specific Gravity (H<sub>2</sub>O=1, at 4 c): 0.951  
Refractive index: 1.419 at 77 F (25 c)  
Boiling Point: 374 F (190 c)  
Freezing/Melting Point: -112 F (-180 c)  
Viscosity: 3.5 cP at 77 F (25 c)  
Surface tension: Miscible  
Other Solubilities: Miscible with acetone, ethanol, benzene, carbon tetrachloride, ether, methanol, monochlorobenzene, VM&P naphtha, and petroleum ether.  
Stability and Reactivity: Stability/Polymerization/conditions to Avoid: Dipropylene glycol methyl ether is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur. Avoid sources of ignition, heat, and oxidizers.  
Storage incompatibilities: strong oxidizers.

HAZARDS: Hazardous Decomposition Products: thermal oxidative decomposition of dipropylene glycol methyl ether can produce toxic gases as carbon monoxide and carbon dioxide.  
Hazard Identification: Colorless liquid; mild, pleasant ether-like odor. Irritating to eyes/respiratory tract.  
Other Acute Effects: CNS depression. Combustible.  
Potential Health Effects  
Target Organs: eyes, respiratory and central nervous systems; in animals (at high concentrations): liver, kidneys, and heart.  
Primary Entry Routes: Skin absorption, skin and/or eye contact, and inhalation.  
Acute Effects  
Inhalation: Due to its low vapor pressure, dipropylene glycol methyl ether vapors do not present a significant inhalation hazard. However, exposure to vapor or mists of dipropylene glycol methyl ether causes nose and throat irritation, headache, dizziness, lightheadedness, and may cause loss of consciousness. High concentrations cause marked irritation of the nasal mucous membranes.  
Eye: direct contact or exposure to high vapor or mist concentrations causes transient irritation.  
Skin: Dipropylene glycol methyl ether is not found to be a skin irritant to humans, however it may be absorbed through the skin.  
Ingestion: None reported; low order of toxicity following acute ingestion.  
Carcinogenicity: NTP- Not listed; IARC – Not listed; OSHA – Not listed; NIOSH- Not listed; ACGIH – Not listed; EPA – Not listed; MAK- Not listed.  
Medical conditions aggravated by long-term Exposure:  
Based on animal studies, liver and kidney disease and existing ailments of the CNS may be aggravated by repeated exposure by very high concentrations.  
Chronic effects:  
Based on animal studies repeated exposure to very high concentrations may effect the liver and kidneys.  
Note: In general, Propylene glycol ethers are not associated with potent hematopoietic, spermatotoxic, or teratogenic effects because they are metabolized differently than the ethylene glycol ether.

FIRE FIGHTING Flash Point: 186 F (86 c), Closed Cup

MEASURES: Autoignition Temperature: None reported.

LEL: 1.1% v/v at 392 F (200 c)

UEL: 3.0% V/V AT 392 F (200 c)

Flammability Classification: OSHA Class IIIA combustible liquid

Extinguishing Media: Use dry chemical, carbon dioxide (CO<sub>2</sub>), water spray, or foam extinguishers.

General Fire Hazards/Hazardous Combustion Products: Toxic gasses (such as carbon monoxide and car-



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bon dioxide) may be produced in a fire.

Fire – Fighting Instructions: If feasible and with out undue risk, remove containers from fire hazard area. Do not release from fire control methods to sewers or waterways. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

### PERSONAL PROTECTION MEASURES:

Engineering Controls: Where feasible, enclose operations and use local exhaust ventilation at the site of chemical release. If local exhaust ventilation or enclosure is not used, wear respirators if concentrations exceed the permissible exposure limits. Where possible, automatically pump liquid dipropylene glycol methyl ether from drums or other storage containers to process containers in a closed system. Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PEL (SEC.2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work areas by controlling it as it source.

Administrative Controls: Consider replacement and periodic medical exams with emphasis on hepatic, CNS, and renal functions of workers. Post hazard and warning information in the work area and educate workers about the hazards of working with dipropylene glycol methyl ether.

Personal Protective Clothing/equipment: Wear chemical protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear splash-proof chemical goggles and face shield, per OSHA eye- and face- protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn. Contact lenses should not be worn when working this chemical.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and for concentrations  $\leq 600$  ppm, wear MSHA/NOISH-approved supplied-air respirator or any SCBA with a full face piece. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Other: Promptly change contaminated clothing. Separate contaminated work clothes from street clothes. Remove this material from shoes and clean personal protective equipment. Inform laundry personnel of the possible hazards associated with laundering clothing contaminated with dipropylene glycol methyl ether. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

OSHA PEL:

### EMERGENCY & FIRST AID PROCEDURES:

Inhalation: Remove exposed person to fresh air and support breathing as needed.

Eye contact: do not allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water for 15 minutes. Consult a Physician or ophthalmologist if pain and irritation develop.

Skin Contact: Quickly remove contaminated clothing. Rinse with flooding amounts of water. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician.

Ingestion: Never give anything by mouth to a unconscious or convulsing person. Contact a poison center. Unless the poison control center advises otherwise, have the conscious and alert person drink 1 to 2 glasses of water. Consult a physician before inducing vomiting.

After First Aid, get appropriate in-plant, paramedic, or community medical support.

### EXPOSURE LIMITS:

OSHA PEL:

TWA – 100ppm; 600mg/m<sup>3</sup>; skin

OSHA PEL Vacated 1989 Limits:

TWA – 100 PPM; 600 mg/m<sup>3</sup>

STEL – 1500 ppm; 900 mg/m<sup>3</sup>

ACGIH TLV:

TWA – 100 ppm;

STEL – 150 ppm; skin.

NIOSH REL:

TWA – 100 ppm, 600 mg/m<sup>3</sup>;

STEL – 150 ppm, 900 mg/m<sup>3</sup>; skin.



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IDLH Level:  
600 ppm.

DFG (Germany) MAK  
TWA – 50 ppm;  
PEAK – 50 ppm;  
Values for mixture of isomers.

**TOXICOLOGICAL INFORMATION:** Acute oral Effects:  
Rat, oral, LD 50 : 5135 mg/kg produced toxic effects: behavioral – affecting sleep.  
Dog, oral, LD 50 : 7500 mg/kg; toxic effects: lungs, thorax, or respiration – other changes.

Acute Skin Effects:  
Rabbit, skin, LD 50 : 10 mL/kg.  
Rat, skin LD 50 : 9500 mg/kg.  
Rabbit, skin : 10 to 20 mL/kg produced some transient weight loss and some narcosis.

Irritation Effects:  
Rabbit, eye : 50 mg/24 hr produced mild irritation.  
Human, eye : 8 mg caused a mild reaction.  
Rabbit, skin : 500 mg (open Draize test) produced mild irritation.

Other Effects:  
Rat, oral : 4mL/kg resulted in renal tubular degeneration.  
Dog, IV : 6 mL/kg caused CNS depression.  
Dog, 5 mL/kg produced no evidence of toxicity.

**ECOLOGICAL INFORMATION:** Environmental Fate:  
Because of dipropylene glycol methyl ether's high solubility and low vapor pressure, it is expected to partition to the aquatic phase of the environment. In water it is not expected to sorb to sediments or bio-concentrate. Evaporative transfer from water to the atmosphere will be minimal. The estimated half-life in the atmosphere is 3.4 hr. Biodegradation is the primary removal mechanism of dipropylene glycol methyl ether. Photolysis and hydrolysis are probably insignificant. BOD values: 5 day – 0%; 10 day – 0%; 20 day- 31%. It is highly mobile and will leach to groundwater.  
Ecotoxicity: Data not found

**DISPOSAL CONSIDERATIONS:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state. And local regulations.

**CARCINOGENIC PROPERTIES & NOTIFICATIONS:** NTP- Not listed; IARC – Not listed; OSHA – Not listed; NIOSH- Not listed; ACGIH – Not listed; EPA – Not listed; MAK- Not listed.

**TRANSPORT INFORMATION:** Shipping Name and Description : Combustible liquid, n.o.s  
ID : NA1993  
Hazard Class : Combustible liq  
Packing group : III – Minor Danger  
Symbols : D G  
Label Codes : None  
Special Provisions : IB3, T1, T4, TP1  
Packaging : Exceptions : 150 Non-bulk: 203 Bulk : 241  
Quantity Limitations : Passenger aircraft/rail : 60 L Cargo aircraft only : 220 L  
Vessel Stowage : Location : A Other:

**HANDLING & STORAGE:** Handling Precautions: Avoid skin and eye contact. Use with ventilation sufficient to reduce airborne concentrations to nonhazardous levels (see Sec.2). Wear personal protective clothing and equipment (see Sec.8) to prevent contact. Keep away from sources of ignition including tobacco products. Open flames are prohibited where dipropylene glycol methyl ether is handled, use or stored. Never eat, drink or smoke in work areas. Wash thoroughly immediately after exposure to dipropylene glycol methyl ether and at the end of each work shift. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.



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Recommended Storage Methods: Store in tightly closed containers in a cool, well-ventilated area away from strong oxidizers, heat, and ignition sources. Inspect periodically.

Regulatory Requirements: follow applicable OSHA regulations.