Proglyde DMM

Dipropylene Glycol Dimethyl Ether

$CH_3OCH_2CH(CH_3)OCH_2CH(CH_3)OCH_3$ (Major isomer)

An aprotic glycol diether with active solvency and formulating versatility

Introduction

PROGLYDE* DMM glycol diether is unique among propylene oxide-based solvents in that it is aprotic (no hydroxyl functionality). As a result, it is relatively inert and can be used in protonsensitive systems such as water-based polyurethane coatings. PROGLYDE DMM can also be used as an azeotroping solvent for esterification reactions. And with its excellent stability, solvency, and coupling performance, PROGLYDE DMM glycol diether provides excellent compatibility with a wide range of agricultural formulations and cleaning products.

Physical properties†

Molecular weight (g/mol)		162.23
Boiling point @ 760 mmHg, 1.01 bar	347°F	175°C
Flash point (Setaflash Closed Cup)	149°F	65°C
Freezing point	<-96°F	<-71°C
Vapor pressure@ 20°C — extrapolated		0.55 mmHg 0.74 mbar
Specific gravity (25/25°C)		0.902
Density @ 20°C @ 25°C	7.54 lb/gal 7.50 lb/gal	0.903 g/cm^3 0.899 g/cm^3
Viscosity (cP or mPa·s @ 25°C)		1.0
Surface tension (dynes/cm or mN/m @ 25°C)		26.3
Specific heat (J/g/°C @ 25°C)		1.83
Heat of vaporization (J/g) at normal boiling point		257
Net heat of combustion (kJ/g) — predicted @ 25°C		28.9
Autoignition temperature	329°F	165°C
Evaporation rate (n-butyl acetate = 1.0) (diethyl ether = 1.0)		0.13 95
Solubility, g/100 g @ 25°C		
Solvent in water		53 (35 %)wt
Water in solvent		4.7 (4.5 %)wt
Hansen solubility parameters (J/cm^3)$^{1/2}$		
δ_d (Dispersion)		14.9
δ_p (Polar)		2.1
δ_h (Hydrogen bonding)		3.8

Flammable limits (vol.% in air)	
Lower (calculated)	0.85
Upper	--

†The physical property data listed here are considered to be typical properties, not specifications.

Classification/Registry Numbers††

CAS Number	111109-77-4
AICS (Australia)	Not registered
DSL (Canada)	111109-77-4
ECL (Korea)	Seriel No. 96-37
EINECS (EU)	404-640-5
MITI (Japan)	7-1321
TSCA (U.S.)	111109-77-4

†† **NOTE:** Classifications apply only to this glycol ether product. It is the responsibility of the formulator to ensure that the final finished product complies with the regulations of a given country prior to its sale or distribution in that country.

Suggested Applications

- Aprotic solvent for use in water-based polyurethane/isocyanate coating systems.
- Active solvency for solvent-based coatings.
- Water removal agent useful in esterification reactions for the production of exceptionally clear resins.
- Powerful paint-stripping formulation when used in combination with small amounts of protic solvent.
- Aproticity, strong solvency, and coupling performance provide for compatibility with a wide range of agricultural formulations.
- Effective for printed circuit board cleaners developed to reduce CFC emissions.
- Stability over a wide pH range allows for use in strongly acidic or alkaline cleaners.

Features

- Aproticity
- High solvency
- Coupling ability
- Coalescing ability
- Water removal
- Powerful diluent
- Thermal and chemical stability
- Low odor
- Moderate evaporation rate
- Low toxicity

NOTE: Consult the appropriate Material Safety Data Sheet for safety and handling guidelines for this product.

*The Dow Chemical Company
Midland, Michigan 48674 U.S.A.

In The United States And Canada:
1-800-447-4369
Fax: 1-989-832-1465

In Europe: +800 3 694 6367
Toll Phone: +32 3 450 2240
Toll Fax: +32 3 450 2815

In The Pacific: +800 7776 7776
Fax: +800 7779 7779
In Other Global Areas: 1-989-832-1556
Fax: 1-989-832-1465

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