



DOWANOL PnB

Propylene Glycol n-Butyl Ether

$C_4H_9OCH_2CH(CH_3)OH$ (Major isomer)

A fast-evaporating, hydrophobic glycol ether with high solvency and excellent coupling abilities

Introduction

DOWANOL* PnB glycol ether is extensively used in heavy-duty cleaning formulations. It does an excellent job of solvating and coupling hydrophobic greases and oils in household as well as industrial formulations. It is partly water soluble and miscible with most organic solvents. DOWANOL PnB glycol ether also provides excellent surface-tension lowering ability. In coatings DOWANOL PnB offers good coalescing ability in systems requiring fast evaporation.

Physical properties†

Molecular weight (g/mol)		132.2
Boiling point @ 760 mmHg, 1.01 bar	340°F	171°C
Flash point (Setaflash Closed Cup)	145°F	63°C
Freezing point	<-112°F	<-80°C
Vapor pressure@ 20°C — extrapolated		0.85 mmHg 1.1 mbar
Specific gravity (25/25°C)		0.878
Density @ 20°C @ 25°C	7.34 lb/gal 7.30 lb/gal	0.879 g/cm ³ 0.875 g/cm ³
Viscosity (cP or mPas @ 25°C)		3.1
Surface tension (dynes/cm or mN/m @ 25°C)		27.5
Specific heat (J/g°C @ 25°C)		1.98
Heat of vaporization (J/g) at normal boiling point		320
Net heat of combustion (kJ/g) — predicted @ 25°C		31.4
Autoignition temperature	500°F	260°C
Evaporation rate	(n-butyl acetate = 1.0) (diethyl ether = 1.0)	0.093 131
Solubility, g/100 g @ 25°C		
Solvent in water		5.5 (5.5 wt%)
Water in solvent		18.5 (15.5 wt%)
Hansen solubility parameters (J/cm ³) ^{1/2}		
_d (Dispersion)		14.9
_p (Polar)		4.2
_h (Hydrogen bonding)		10.7
Flammable limits (vol.% in air)		
Lower (measured @ 25°C)		1.10
Upper (measured @145°C)		8.40

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

Classification/Registry Numbers††

CAS Number	5131-66-8
AICS (Australia)	5131-66-8
DSL (Canada)	5131-66-8
ECL (Korea)	2-521
EINECS (EU)	225-878-4
MITI (Japan)	2-2424
TSCA (U.S.)	5131-66-8

†† 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

- Coupling agent and solvent in household and industrial cleaners, grease and paint removers, metal cleaners, and hard surface cleaners.
- Effective coupling agent and efficient solvent for water-reducible coatings.
- Effective coalescent for lowering minimum film formation temperature (MFFT) in water-borne latex coatings.
- Active solvent for solvent-based coatings.
- Chemical intermediate for the production of epoxides, acid ester derivatives, solvents, and plasticizers.
- Effective coupling agent in waterbased agricultural formulations.

Features

- Excellent solvency
- Good oil solubility
- Effective surfactant properties
- Excellent coupling ability
- Good evaporation rate control
- Greater formulating flexibility
- Low viscosity
- Wide range of applications
- Low toxicity
- Practical alternative to Butyl CELLOSOLVETM glycol ether (formerly known as DOWANOL EB ethylene glycol butyl ether)
- High dilution ratio
- Colorless

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

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