



Technical Data Sheet

DOWANOL™ DPnB Glycol Ether

Synonyms

Dipropylene glycol n-butyl ether.

Chemical Formula

$C_4H_{10}O[CH_2CH(CH_3)O]_2H$

Sustainability Attribute:



Product Description

DOWANOL™ DPnB Glycol Ether is a slow-evaporating, hydrophobic glycol ether with excellent surface tension-lowering ability and coalescing properties. DOWANOL™ DPnB Glycol Ether is a relatively slow-evaporating solvent which is one of our most efficient coalescents in water-borne latex systems. DOWANOL™ DPnB Glycol Ether combines a number of properties that contribute to very high latex film quality: 1) high polymer plasticizing efficiency, 2) large molecular size and therefore greater polymer mobility contribution, 3) strong partitioning to the polymer phase, and 4) relatively slow evaporation rate. This product is compatible with many different resin types. DOWANOL™ DPnB Glycol Ether also provides excellent surface tension lowering ability, and is useful in cleaning products by itself or when blended with other products such as DOWANOL™ DPM Glycol Ether. Used alone in cold metal cleaning, DOWANOL™ DPnB Glycol Ether is a good solvent for removing oils and greases.

Applications

- Coupling agent and solvent in household and industrial cleaners, grease and paint removers, metal cleaners, and hard surface cleaners.
- 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 solvent for water-reducible coatings.

Typical Physical Properties

Properties	Unit	Result
Molecular weight	g/mol	190.3
Boiling point @ 760 mmHg, 1.01 ar	°C (°F)	230 (446)
Flash point, Setaflash closed cup	°C (°F)	100.4 (212.7)
Vapor pressure @ 20°C — extrapolated	mm Hg	0.04
Specific gravity (25/25°C)		0.910

Typical Physical Properties (Cont.)

Properties	Unit	Result
Liquid density @ 20°C	g/cm ³	0.913
@ 25°C	g/cm ³	0.907
Vapor density (air = 1)		6.6
Viscosity @ 25°C	mm ² /s	4.9
Surface tension @ 20°C	dynes/cm or mN/m	28.8
Specific heat @ 25°C	J/g/°C	1.79
Heat of vaporization at normal boiling point	J/g	252
Net heat of combustion — predicted @ 25°C	kJ/g	30.8
Autoignition temperature	°C (°F)	194 (381)
Evaporation rate (n-butyl acetate = 1.0)		< 0.01
Solubility g/100 or % @ 25°C		
Solvent in water	%	4
Water in solvent		10.4
Hansen solubility parameters	(J/cm ³) ^{1/2}	
_d (Dispersion)		14.8
_p (Polar)		2.5
_h (Hydrogen bonding)		8.7
Partition Coefficient, n-octanol/water	log Pow	1.52
Flammable limits	vol. % in air	
Lower		0.6
Upper		20.4

Typical Physical Properties:

This data provided for those properties are typical values, and should not be construed as sales specifications.

Classification/ Registry Numbers/Country Inventory¹

CAS#	29911-28-2
AICS (Australia)	29911-28-2
DSL (Canada)	29911-28-2
IECSC (China)	29911-28-2
ECI (Korea)	29911-28-2
EINECS (EU)	249-951-5
MITI (Japan)	29911-28-2
ENCS/IHSL (Japan)	7-97
NZIoC (New Zealand)	29911-28-2
PICCS (Philippines)	29911-28-2
TSCA (U.S.)	29911-28-2

¹NOTE: 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.

How Supplied

REGION	PACKAGING	TRANSPORT MODE
Europe/Africa	Bulk/Drum	Tank Truck
Latin America	Bulk/Drum	Tank Truck
North America	Bulk/Drum	Tank Truck/Tank Car
Pacific	Bulk/Drum	Tank Truck

Product Stewardship

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