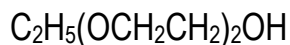




CARBITOL Solvent

Diethylene Glycol Monoethyl Ether



A fast-acting solvent with a high boiling point and low vapor pressure

Introduction

CARBITOL™ Solvent is an important solvent in nongrain- raising wood stains and serves as a component of industrial cleaners. Textile printing and dyeing processes utilize CARBITOL Solvent to facilitate penetration into fibers and to promote the production of intense, bright shades. These characteristics, as well as its high boiling point and low vapor pressure, make it useful for twist setting and yarn and cloth conditioning. Mineral oil-soap and mineral oil- sulfonated oil mixtures require fast-acting mutual solvents. Small quantities of CARBITOL Solvent in these mixtures form translucent-to clear dispersions, in contrast to the usual turbid dispersion that indicates incomplete solubility.

Physical properties†

Molecular weight (g/mol)		134.2
Boiling point	394°F	201°C
Flash point (1)	194°F	90°C
Freezing point	-45°F	-43°C
Vapor pressure@ 20°C		0.07 mmHg
Specific gravity (20/20°C)		0.990
Density @ 20°C		8.24 lb/gal
Viscosity (@ 25°C, cP)		4.5
Surface tension (dynes/cm @ 25°C)		31.7 (neat product) 46.2 (25% aq.solution) ⁽²⁾
Specific heat (J/g/°C @ 25°C)		2.193
Heat of vaporization (J/g) at normal boiling point		350.08
Net heat of combustion (kJ/g) — predicted @ 25°C		25.5
Autoignition temperature	394°F	201°C
Evaporation rate	(n-butyl acetate = 1.0)	0.01
Solubility @ 20°C by weight		
Solvent in water		100
Water in solvent		100

Hansen solubility parameters (J/cm ³) ^{1/2}		
_d (Dispersion)		16.1
_p (Polar)		9.2
_h (Hydrogen bonding)		12.2
Flammable limits (vol.% in air)		
Lower 1.2% (v)	275°F	135°C
Upper 23.5% (V)	360°F	182.2°C

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

¹ SetaFlash Closed Cup.

² Percent by weight: 25% product; 75% water.

Classification/Registry Numbers††

CAS Number	111-90-0
AICS (Australia)	111-90-0
DSL (Canada)	111-90-0
ECL (Korea)	KE-10467 ⁽¹⁾
EINECS (EU)	203-919-7
ENCS (Japan)	2-422 ⁽²⁾
MITI (Japan)	111-90-0

¹Korean Inventory of Chemicals

²Japanese Inventory (ENCS)

†† **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

- Solvent for non-grain-raising wood stains and coatings
- Carrier solvent for textile dyeing and printing
- Coupling agent and solvent in household and industrial cleaners

Features

- High boiling point
- Low vapor pressure
- Promotes uniform dispersions

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

Product Stewardship

The Dow Chemical Company has a fundamental concern for all who make, distribute, and use our family of glycol ether products, and the environment we share. This concern is the basis for our Product Stewardship philosophy, by which we assess all available information on our products and then take appropriate steps to protect employee and public health and the environment. In addition, Dow is committed to implementing the guiding principles and management practices of the chemical industry's Responsible Care[†] initiative, which includes Product Stewardship as one of the Management Practices. As part of our Product Stewardship effort, information such as Material Safety Data Sheets and literature on DOW glycol ethers are provided to assist customers in handling our glycol ether products in a safe and responsible manner.

[†] Service mark of The Chemical Manufacturer's Association



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