Shell Chemicals

Technical Datasheet

Methyl PROXITOL

Product Code	U5141
Region	Global
Product Category	Propylene Glycol Ethers
CAS Registry Number	107-98-2
Synonym(s)	1-methoxy-2-propanol, MePROX, MP, PM
Description	Methyl PROXITOL is a colourless, hygroscopic solvent with a volatility, viscosity and solvent power similar to those of ethylene oxide-based glycol ethers.

Typical Properties

Property	Unit	Method	Value
Purity, min.	%m/m	GC	99.5
Water	%m/m	ASTM D1364	0.05
Acidity (as Acetic Acid)	%m/m	ASTM D1613	0.002
Density at 20°C	kg/l	ASTM D4052	0.921
Specific Gravity at 20°C/20°C	-	ASTM D4052	0.923
Specific Gravity at 25°C/25°C	-	ASTM D4052	0.919
Coefficient of Cubic Expansion at 20°C	10^{-4}/°C	Calculated	10
Refractive Index at 20°C	-	ASTM D1218	1.403
Colour	Pt-Co	ASTM D1209	< 5
Boiling Point	°C	-	120
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	0.75
Relative Evaporation Rate (Ether=1)	-	DIN 53170	22
Antoine Constant A #	kPa. °C	-	7.01882
Antoine Constant B #	kPa. °C	-	1780.17
Antoine Constant C #	kPa. °C	-	236.322
Temperature Limits for Antoine Equation #	°C	-	-30 to +130
Vapour Pressure at 20°C	kPa	Calculated	1.2

Vapour Pressure at 50°C	kPa	Calculated	6.3
Saturated Vapor Concentration at 20°C	g/m^3	Calculated	44
Volatile Organic Compound (VOC)	g/l	EU / EPA	921
Flash Point (Abel)	°C	IP 170	30
Auto Ignition Temperature	°C	ASTM E659	290
Lower Explosion Limit	%v/v	-	1.9
Upper Explosion Limit	%v/v	-	13.1
Electrical Conductivity at 20°C	pS/m	ASTM D4308	$3*10^7$
Dielectric Constant at 20°C	-	-	12.3
Freezing Point	°C	-	-96
Surface Tension at 20°C	mN/m	-	28
Viscosity at 20°C	mPa.s	-	1.9
Hildebrand Solubility Parameter	$(cal/cm^3)^{1/2}$	-	9.5
Hydrogen Bonding Index	-	-	0.0
Fractional Polarity	-	-	0.110
Heat of Vaporisation at T_{boil}	kJ/kg	-	427
Heat of Combustion (Net) at 25°C	kJ/kg	-	26000
Specific Heat at 20°C	kJ/kg/°C	-	2.23
Thermal Conductivity at 20°C	W/m/°C	-	0.18
Miscibility at 20°C: Solvent in water	%m/m	-	complete
Miscibility at 20°C: Water in solvent	%m/m	-	complete
Azeotrope with Water: Boiling Point	°C	-	96.5
Azeotrope with Water: Solvent Content	%m/m	-	52.9
Molecular Weight	g/mol	-	90

(#) In the Antoine temperature range, the vapor pressure P (kPa) at temperature T (°C) can be calculated by means of the Antoine equation: log P = A - B/(T+C)

Test Methods

Copies of copyrighted test methods can be obtained from the issuing organisations:

American Society for Testing and Materials (ASTM) : www.astm.org
Energy Institute (IP) : www.energyinst.org.uk
Deutsches Institut für Normung (DIN) : www.din.de

N.B: For routine quality control local test methods may be applied. Such methods have been validated against those mentioned in this datasheet.

Quality

Methyl PROXITOL does not contain detectable quantities of polycyclic aromatics, heavy metals or chlorinated compounds.

Hazard Information

For detailed Hazard Information please refer to the Safety Data Sheet on ww.shell.com/chemicals.

Storage Handling

Provided proper storage and handling precautions are taken we would expect Methyl PROXITOL to be technically stable for at least 12 months. For detailed advice on Storage and Handling please refer to the Safety Data Sheet on www.shell.com/chemicals.

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