Shell Chemicals

Technical Datasheet

Methyl DIPROXITOL

Product Code	U5139
Region	Global
Product Category	Propylene Glycol Ethers
CAS Registry Number	34590-94-8
Synonym(s)	1-(2-methoxymethylethoxy)-2-propanol, MeDIPROX, MDP, DPM
Description	Methyl DIPROXITOL is a colourless, hygroscopic, high boiling liquid with a mild odour. It is miscible in any proportion with water and many organic solvents and has good solvent power for nitrocellulose and dyestuffs

Typical Properties

Property	Unit	Method	Value
Purity, min.	%m/m	GC	98.5
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	0.953
Specific Gravity at 20°C/20°C	-	ASTM D4052	0.955
Specific Gravity at 25°C/25°C	-	ASTM D4052	0.951
Coefficient of Cubic Expansion at 20°C	10^{-4}/°C	Calculated	10
Refractive Index at 20°C	-	ASTM D1218	1.423
Colour	Pt-Co	ASTM D1209	< 5
Boiling Point	°C	-	191
Relative Evaporation Rate (nBuAc=1)	-	ASTM D3539	0.04
Relative Evaporation Rate (Ether=1)	-	DIN 53170	360
Antoine Constant A #	kPa. °C	-	6.70707
Antoine Constant B #	kPa. °C	-	1633.03
Antoine Constant C #	kPa. °C	-	161.693

Temperature Limits for Antoine Equation #	°C	-	+50 to +190
Vapour Pressure at 20°C	kPa	Calculated	< 0.01
Vapour Pressure at 50°C	kPa	Calculated	0.10
Saturated Vapor Concentration at 20°C	g/m^3	Calculated	< 0.5
Volatile Organic Compound (VOC)	g/l	EU / EPA	953
Flash Point (Abel)	°C	ASTM D93	79
Auto Ignition Temperature	°C	ASTM E659	205
Lower Explosion Limit	%v/v	-	1.3
Upper Explosion Limit	%v/v	-	8.7
Electrical Conductivity at 20°C	pS/m	ASTM D4308	$1*10^7$
Dielectric Constant at 20°C	-	-	10.5
Freezing Point	°C	-	-83
Surface Tension at 20°C	mN/m	-	29
Viscosity at 20°C	mPa.s	-	4.3
Hildebrand Solubility Parameter	$(cal/cm^3)^{1/2}$	-	8.7
Hydrogen Bonding Index	-	-	0.0
Fractional Polarity	-	-	0.050
Heat of Vaporisation at T_{boil}	kJ/kg	-	306
Heat of Combustion (Net) at 25°C	kJ/kg	-	27500
Specific Heat at 20°C	kJ/kg/°C	-	1.96
Thermal Conductivity at 20°C	W/m/°C	-	0.11
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	-	99.2
Azeotrope with Water: Solvent Content	%m/m	-	8.0
Molecular Weight	g/mol	-	148

(#) 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 DIPROXITOL 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 DIPROXITOL 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.

Trademark

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