METANOLO MEDITERRANEO SRL
Via Pietro Triboldi, 4
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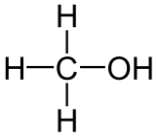
Cremona, Italia

Cod. Fisc: 01018230191
P.Iva: 01018230191
Reg. Imprese: 01018230191
R.E.A.: CR-128707

INTRODUCTION

CHEMICAL FORMULA:	CH3OH
MOLECULE:	
CAS No.:	67-56-1
SYNONYM:	Methyl Alcohol
DESCRIPTION:	Transparent Liquid; Soluble In Water; Biodegradable
HAZARD IDENTIFICATION NUMBER:	336
UN NUMBER:	1230
ADR CLASSIFICATION:	Class 3, G.I. II
HAZARD SYMBOLS:	

APPLICATIONS

A short list of how methanol is used is detailed below:

- Elementary component for the creation of chemical substances and products
- In antifreeze liquids for car windows
- In wastewater treatment
- In biodiesel production
- As a solvent (e.g. for thinning paints and furniture polishing)
- Reagent in industrial chemical processes
- Motor fuel (e.g. used in automotive engines for IndyCar racing and drag racing)
- In micro-motors for dynamic models (aeromodelling, RC car and naval models)
- Mixed with castor vegetable oil (percentage 5%-20%), or synthetic based oils (percentage 2%-10%), possibly also with a small percentage of nitromethane (percentage 1%-25% max.)
- As the main component (60%) of Methacarn (an alcoholic fixative liquid);

In Iceland it is also used as a storage medium for geothermal electricity, synthesising it from hydrogen obtained by hydrolysis and carbon dioxide.

PROPERTIES

Molecular weight	32.04 g/mol
Specific Gravity (20/20°C)	0.7910 - 0.7930
Purity	99.85 %wt min
Water (Impurities)	0.100 %wt max
Acetone (Impurity)	30mg/kg max
Ethanol (Impurity)	50mg/kg max
Chlorides (Impurities)	CI- 0.5 mg/kg max
Solubility	Methanol in water/Water in Methanol - 100% / 100%
Flash point (closed cup, 1atm):	12 °C / 54 °F

Boiling Point	64.6°C / 148°F
Freezing Point	-97.8°C / -144°F
Explosive limits in air	6% - 36%

PHYSICAL PROPERTIES OF PURE METHANOL

Molecular Weight	32.04 g mol^{-1}
Critical Temperature	512.5K
	(239°C; 463°F)
Critical Pressure	8.084MPa
Critical Density	(78.5 atm)
	0.2715 g cm-3
Critical Compressibility	0,224
Specific Gravity	
Liquid (25°/4ºC)	0.7866
Liquid (20°/4°C)	0.7915
Liquid (15°/4°C)	0.7960
Vapour	1.11
Vapour Pressure	
20°C (68°F)	12.8 kPa
	(1.856 psia)
	(96 mm Hg)
25°C (77°F)	16.96 kPa
	(2.459 psia)
	(127.2 mm Hg)
Latent Heat of Vaporisation	
25°C (77°F)	37.43 kJ mol^{-1}
	(279.0 cal g-1)
64.6°C (148.3°F)	35.21 kJ mol-1
	(262.5 cal g-1)
Heat Capacity at Constant Pressure 25°C (77°F) (101.3kPa)	
Liquid	81.08 J mol^{-1} K^{-1}
	(0.604 cal g-1 K-1)
	(0.604 Btu lb-1 °F-1)
Vapour	44.06 J mol-1 K-1 [1]
	(0.328 cal g-1 K-1)
	(0.328 Btu lb-1 °F-1)
Coefficient of Cubic Thermal Expansion	
20°C	0.00149 per °C
40°C	0.00159 per °C
Boiling Point 760 mm Hg (101.3 kPa)	64.6°C
	(148.3°F)
Freezing Point	-97.6°C
Reid Vapour Pressure	(-143.7°F)
	32 kPa
Flash Point	
Closed vessel (TCC method)	12°C (54°F)
Open vessel (TOC method)	15.6°C (60.1°F)

Auto Ignition Temperature	470°C (878°F)
Viscosity	
Liquid	
-25°C (-13°F)	1.258 mPa s
0°C (32°F)	0.793 mPa s
25°C (77°F)	0.544 mPa s
Vapour	
25°C (77°F)	9.68 mPa s
127°C (261°F)	13.2 mPa s
Surface Tension	
20°C (68°F)	22.6 mN m^{-1}
25°C (77°F)	22.07 mN m-1
Refractive Index	
15°C (59°F)	133,066
20°C (68°F)	132,840
25°C (77°F)	132,652
Thermal Conductivity	
Liquid	
0°C (32°F)	207 mW m-1 K-1
25°C (77°F)	200 mW m-1 K-1
Vapour	
100°C (212°F)	14.07 mW m-1 K-1
127°C (261°F)	26.2 mW m-1 K-1
Heat of Combustion	
Higher heating value (HHV) (25°C, 101.325kPa)	726.1 kJ mol-1
	(22.7 kJ g-1)
Lower heating value (LHV) (25°C, 101.325kPa)	638.1 kJ mol-1 [calc]
	(19.9 kJ g-1)
Flammable Limits (in air)	Lower 6.0(v/v)%
	Upper 36.5(v/v)%

PRODUCTION SPECIFICATIONS

Methanol is produced in accordance with the methanol specifications of the International Methanol Producers and Consumers Association (IMPCA), which reviews and updates the specifications approximately every two years.
For the current IMPCA methanol specifications, please refer to the IMPCA website at http://www.impca.eu/IMPCA/Technical/IMPCA-Documents

HAZARDS AND PRECAUTIONS

Flammability

Methanol is a flammable liquid and burns with a clear blue flame, smokeless and difficult to see in daylight.
Keep away from sources of ignition, including heat, sparks, flames and hot surfaces.
Keep containers tightly closed when not in use. Containers should be stored in well-ventilated and cool areas.

Health

Methanol can be toxic if swallowed, inhaled, or comes into contact with the skin, although skin absorption is a slower process than ingestion or inhalation.
Avoid breathing vapours or mist.
When handling methanol, wear suitable, chemical-resistant gloves.

PPE

Depending on the activity, respiratory protection may be necessary
If swallowed, immediately seek medical attention

For safety, handling and storage instructions, refer to the safety data sheet and handling instructions available on the website http://www.metmed.it