

Propellants

Dimethyl ether (DME)



Dimethyl ether (DME): Versatile propellant suitable for all types of solvents.

Dimethyl ether is a single component propellant in the form of liquefied gas, characterized by its versatility of application. Due to its chemical structure, it has a good vapor tension, a good expansion ratio and is a great solvent, being compatible with both polar and non-polar solvents. Water miscibility is especially interesting, allowing water-based formulations.

Chemical Name:

Methoxymethane

CAS number:

115 - 10 - 6



Technical Characteristics:

- > Extremely flammable, colorless liquefied gas with a characteristic odor.
- > Good vapor pressure.
- > Good liquid-gas expansion ratio.
- > Miscible with water and polar solvents; facilitates single phase formulations.
- > Good solvent: It can act as a solvent in the formulation.
- > Low viscosity and vapor tension.
- > Due to its solvency power, specific gaskets are needed for tanks and cans.

Packaging:

- Cylinder
- Roll drum
- ISOtank

Applications:



Paint



Personal care (hairspray, deodorant, etc.)



Polyurethane



Home care products



Technical aerosol

Properties:

Chemical Formula	CH ₃ - O - CH ₃	
Molecular Weight	46,07	g/mol
Boiling Point	-24,9	°C
Vapor pressure (20°C)	4,1	bar
Vapor pressure (50°C)	10,5	bar (abs)
Liquid Density (20°C)	668,3	kg/m ³
Liquid Density (50°C)	615	kg/m ³
Relative vapor density	1,59	(aire = 1)
DME in Water Solubility	36	% (m/m)
Water in DME Solubility	5,5	% (m/m)
Net calorific value, liquid	28,43	kJ/kg
Ignition point	235	°C
LEL (Lower Explosive Limit)	3	% volume
UEL (Upper Explosive Limit)	18,6	% volume
Kauri - Butanol	91	
Surface Tension (20°C)	0,0125	N/m
Liquid Viscosity (20°C)	0,11	mPas

Table of temperature, pressure and density:

Temperature (°C)	Pressure (bar)	Liquid density (kg/l)
0	1,7	0,700
5	2,2	0,693
10	2,7	0,685
15	3,4	0,677
20	4,1	0,669
25	4,9	0,661
30	5,8	0,653
35	6,8	0,645
40	7,9	0,636
45	9,1	0,627
50	10,4	0,618
55	11,9	0,609
60	13,5	0,599
65	15,2	0,589

Normative:

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More information:

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