

DMSO no hazard labeled solvent**Introduction**

DMSO, dimethyl sulfoxide (CH₃)₂SO, is an odorless, water white, biodegradable and non toxic solvent. It is versatile and powerful, it dissolves a very wide range of organic and inorganic substances and is miscible with most common organic solvents such as alcohol ethers, chlorinated solvents and aromatics. With very high water solubility and active solvency, DMSO offers a high viscosity reduction.

Suggested applications

- Active solvent for solvent-based coatings.
- Active solvent for gravure and printing inks.
- Carrier solvent for ball point and felt tip writing pen inks.
- Solvent or coupling agent for household and industrial cleaners, rust removers and hard surface cleaners.
- Solvent for agricultural pesticides.
- Paint solvent.
- Extraction solvent.
- Pigment, ink, paint, and glue solvent.

Features and benefits**Features**

- Excellent grease cleaning
- Efficient surface tension ability
- Moderate evaporation rate
- Low viscosity
- High dilution ratio
- Excellent solvent properties
- Completely water soluble
- Low toxicity
- Colorless
- Low odor

Benefits

- Easier cleaning
- Ease of incorporation
- High efficiency
- Reduced solvent level
- Improved surface effects
- Formulation flexibility
- Reduced need of hydrotropes
- Reduced surfactant level
- Wide range of applications
- No hazard labeling

Version 1

Les valeurs mentionnées dans ce document sont le résultat d'essais conformes aux usages en matière d'études : elles sont données à titre indicatif afin de permettre à notre clientèle le meilleur emploi de nos produits et doivent être considérées comme des valeurs moyennes fournies sans engagement de notre part.

The values given in this document have been obtained in laboratory tests conforming to standard procedures ; they should be regarded as mean values given as an indication to customers of the best ways of using our products. They do not imply any undertaking on our part.



Properties

Physical properties	Molecular Weight (g/mol)	78	
	Boiling point (°C at 760 mmHg)	189	
	Freezing point (°C)	18.5	
	Specific gravity (20/4)	1.101	
	Autoignition temperature (°C)	255	
	Refractive index (25°C)	1.476	
	Cubic expansion coef. (Cx10³)	1.0	
	Absolute Viscosity (cP or mPas at 25°C)	2.0	
	Surface tension (dyn/cm or mN/m at 20°C)	43.5	
	Flash point (°C closed cup)	85	
Aqueous effluent	Solubility in water (25°C w/w)	Total	
	Solubility of water in DMSO (25°C w/w)	Total	
	Log₁₀ partition in octanol/water	-2.03	
	Theoretical oxygen demand	2.05	
Vapor pressure equation constant (P(bar); T (K)) Log₁₀(P)=A-(B/T+C)	Antoine equation A	5.23039	
	Antoine equation B	2239.161	
	Antoine equation C	-29.215	
	Vapor pressure (20°C mmHg)	0.42	
Solvent properties	Dielectric constant 10 MHz 20°C	48.9	
	Dielectric constant 10 MHz 40°C	45.5	
	Dipole moment (Debye)	3.96	
	Conductivity (at 20°C ohm⁻¹cm⁻¹)	3 10⁻⁸	
	Conductivity (at 80°C ohm⁻¹cm⁻¹)	7 10⁻⁸	
	pKa	35.1	
	Hansen parameters	Cal^{1/2}cm^{-3/2}	MPa^{1/2}
	Hansen polarity parameter	8	16.4
	Hansen dispersion parameter	9	18.4
	Hansen hydrogen parameter	5	10.2
	Hildebrand parameter=solubility parameter	13	26.7
	Kauri butanol value (ASTM D1133-78)	164	
	Thermal information	Specific heat (cal/mol/°C)	36
Heat of combustion (kcal/g mol)		441	
Heat of fusion (cal/g)		41.3	
Heat of vaporization (at 70°C kcal/mol)		11.3	
Specific heat (cal/mol/°C)		36	
Heat of solution in water (at 25°C cal/g)		-54	
Van der Walls' volume		2.83	
Van der Walls' surface area		2.47	
Molar volume		71.3	

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