

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Dimethyl Sulfoxide (DMSO)
- English Name: Dimethyl Sulfoxide; DMSO
- CAS Number:67-68-5
- Formula:C<sub>2</sub>H<sub>6</sub> OS
- Molecular Weight:78.13 g/mol
- Product Characteristics: Colorless, odorless viscous liquid with excellent solvent properties. High-purity polar aprotic solvent with strong permeability and solubility. Chemically stable, non-flammable, and low-toxic. Miscible with water/organic solvents, suitable for chemical synthesis, pharmaceuticals, and laboratory research.

### 2. Technical Specifications

Item	Specification
Appearance	Colorless clear viscous liquid
Purity (GC)	≥ 99.5%
Water Content	≤ 0.2%
Density (20°C)	1.095-1.097 g/cm <sup>3</sup>
Boiling Range	189-191°C
Refractive Index (20°C)	1.477-1.479
Flash Point (Closed Cup)	95°C
Viscosity (20°C)	1.99 mPa·s
Heavy Metals (Pb)	≤ 0.5 ppm
Heavy Metals (As)	≤ 0.1 ppm
Non-Volatile Residue	≤ 0.005%
Water Solubility	Fully miscible
Permeability	High skin/membrane permeability

### 3. Product Advantages

1. High Purity: Low impurity content ensures stable performance in sensitive processes.
2. Universal Solvency: Dissolves polar/non-polar compounds, polymers, and biomolecules.
3. Chemical Stability: Inert to most reagents under normal conditions.
4. Low Toxicity: Safe for pharmaceutical and laboratory applications.

### 4. Application Fields

- Pharmaceutical Industry: Solvent for drug formulation, transdermal penetration enhancer.
- Chemical Synthesis: Reaction solvent for organic/inorganic synthesis, catalyst carrier.
- Laboratory Research: Analytical reagent, sample preparation solvent, cryoprotectant.
- Industrial Processing: Polymer solvent, electronic component cleaning agent.

### 5. Usage Methods

- Dosage: 10-100% concentration (adjust by application).

- Application: Use in closed systems; avoid contact with strong oxidizers and acids.
- Optimal Conditions: Operate in well-ventilated areas; store away from high temperature.

## 6. Packaging & Storage

- Packaging: 5L HDPE cans, 20L HDPE drums, 200L HDPE drums, 1000L IBC totes (UN-approved).
- Storage: Cool, dry, well-ventilated warehouse ( $\leq 30^{\circ}\text{C}$ ); sealed, away from heat/sparks/oxidizers.
- Shelf Life: 24 months (unopened, specified conditions).
- Transportation: Non-hazardous; transport by ordinary vehicles.

## 7. Safety & Protection

- Low-toxic and non-flammable; avoid prolonged skin contact (may cause irritation).
- Wear nitrile rubber gloves and safety glasses during large-scale handling.
- In case of eye contact, rinse with plenty of water for 5-10 minutes.

## 8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch comes with a COA for compliance verification.
- Provide technical support for solvent blending and application optimization.