



山东石大胜华化工集团股份有限公司

Shandong Shida Shenghua Chemical Group Co., Ltd.

## Technical Data Sheet

### Dimethyl Carbonate (DMC)

**Molecular formula:** C<sub>3</sub>H<sub>6</sub>O<sub>3</sub>

**Composition Structure:**  $\text{CH}_3\text{-O-C(=O)-O-CH}_3$

Under normal temperature, it is a colorless, transparent liquid with a molecular weight of 90.08. It has a melting point of 4°C and a boiling point of 90.3°C. Its index of refraction ( $n_d^{20}$ ), viscosity and latent heat of vaporization are respectively 1.3697, 0.664 mpa.s and 8382 KJ/Kmol. It can be mixed with such organic solvents as alcohol, ketone, ester, etc. at any proportion but it is slightly soluble in water.

It is a perfect methylating agent, carbonylating agent, methoxylating agent and methylolating agent with active chemical properties. As an organic synthetic intermediate, it has found wide applications in making low-boiling-point solvents, cleaning agents, propellants and solvents for special paints and sprays. With further processing, it can also be used as gasoline additive, electrolyte for high-performance batteries, medium and reagent for water treatment. Besides, it can be used for the preparation of polycarbonate, medicine and pesticide, perfume and synthetic lubricants, etc. It is an ideal substitute for toxic substances such as phosgene, dimethyl sulphate, and methyl chloroformate. Thus, it is a green chemical product.

**Specifications:** (It conforms to the Quality System Standard: ISO9001: 2000)

Item	Unit	Specification		
		Super Grade	Battery Grade	Tech Grade
DMC content	Wt %	99.99 min	99.95 min	99.80 min
Methanol	Wppm	20 max	100 max	400 max
Mositure	Wt ppm	20 max	100 max	200 max
Ethanol	Wt ppm	15 max	/	/
Ethyl Methyl Carbonate	Wt ppm	100 max	/	/
Diethyl Carbonate	Wt ppm	100 max	/	/
Density (20°C)	g/cm <sup>3</sup>	1.066-1.076	1.066-1.076	1.066-1.076
Acidity (as H <sup>+</sup> )	mmol/100g	0.01 max	0.01 max	0.02 max
Color, Pt-Co	APHA	5 max	5 max	10 max

#### Packing, Storage and Transportation:

It can be packed in ISO tank, stainless steel drum or galvanized iron drum. It is 3 class hazardous product and should be stored in a cool and well-ventilated place and transported as inflammable chemical products.