



ELACTAVIA – dMS™ (Dimethyl sulfate)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	Colorless, oily liquid
Physical Form	Liquid
Odor	Faint, onion-like odor
Molecular Weight (g/mol)	126.13
Density or Specific Gravity	1.3283 g/mL at 68 °F
Refractive Index	1.3874 at 20 °C/D
Chemical Properties	
Water Solubility	2.8 g/100 mL
Thermal Properties	
Melting Point	-25.15 °F
Boiling Point	About 370 °F
Flash Point	182 °F
Autoignition Temperature	370 °F

2. Processing Methods



Cationic Dye Methylation Mixture

When methylating dye intermediates to form cationic dyes, add Dimethyl Sulfate (DMS) gradually to the dye base in an aqueous or solvent medium under cooling to control the exothermic reaction. Stir continuously and monitor the reaction progress before work-up and purification.

Key Ingredients	Indicative Dosage (% w/w)
Sulfanilic Acid	25%
Sodium Carbonate	10%
Sodium Nitrite	10%
N,N-Dimethylaniline	15%
Dimethyl Sulphate	10%
Hydrochloric Acid (conc.)	5%
Ice/Water	25%

Cellulose Ether Methylation Process

In the methylation of cellulose to produce methylcellulose, add Dimethyl Sulfate (DMS) slowly to the alkaline cellulose slurry under controlled cooling to avoid runaway exothermic reaction. Stir thoroughly for uniform reaction and quench with dilute acid or water to stop methylation.

Key Ingredients	Indicative Dosage (% w/w)
Cellulose pulp	25%
Dimethyl Sulfate (DMS)	33%
Magnesium Oxide (MgO)	33%
Water (solvent)	9%

3. Products

Products	Authorized dosage
Methyl cellulose synthesis	10-25%
Cationic dye synthesis	20-35%

4. Grade Comparison Summary

Parameter	Technical Grade
Purity (%)	≥98%
Appearance	Colorless to pale yellow liquid
Stability	Reactive



Parameter	Technical Grade
Usage/Application	Chemical intermediate, alkylation
Regulatory Compliance	EPA, OSHA
Typical Impurities	Methanol, sulfuric acid

The information and data contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof.

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