

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: N,N-Dimethylethanolamine
- English Name: N,N-Dimethylethanolamine
- CAS Number: 108-01-0
- Formula: $C_4H_{11}NO$
- Molecular Weight: 89.14 g/mol
- Product Characteristics: High-purity colorless liquid, mild amine odor, fully miscible with water and organic solvents. Strong basicity, acts as efficient catalyst and pH adjuster. Stable under normal use, suitable for coatings, cosmetics, and chemical synthesis.

2. Technical Specifications

Item	Specification
Appearance	Colorless to pale yellow liquid
Purity ($C_4H_{11}NO$)	$\geq 99.0\%$
Boiling Point	133-135°C
Melting Point	-59°C
Water Content	$\leq 0.5\%$
pH Value (1% solution, 25°C)	10.0-12.0
Heavy Metals (Pb)	$\leq 0.001\%$
Iron (Fe)	$\leq 0.0005\%$
Refractive Index (25°C)	1.4350-1.4380
Flash Point (Closed Cup)	41°C
Density (25°C)	0.885-0.890 g/cm ³

3. Product Advantages

- High purity and consistent performance.
- Excellent solubility in water and organic solvents.
- Strong basicity for efficient pH adjustment and catalysis.
- Low volatility and stable under proper storage.
- Versatile applications across industries.

4. Application Fields

- Coatings & Adhesives: Amine catalyst for polyurethane foams, epoxy curing agent.
- Cosmetics & Personal Care: pH adjuster, emulsifier in skin care and hair care products.
- Chemical Synthesis: Intermediate for pharmaceuticals, surfactants, corrosion inhibitors.
- Textile Industry: Dyeing auxiliary, antistatic agent.
- Other: Gas treatment (acid gas absorption), metalworking fluid additive.

5. Usage Methods

- Coatings: Add 0.1-2% (mass ratio) to resin system; mix evenly.



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- Cosmetics: Add 0.05-0.5% to adjust pH to 7-9; stir during formulation.
- Chemical Synthesis: Use in specified molar ratios; react at 20-80°C.
- Optimal Conditions: Apply at 15-40°C; avoid strong oxidizing agents and open flames.

6. Packaging & Storage

- Packaging: 20 kg HDPE drums, 200 kg HDPE drums, 1000 kg IBC totes.
- Storage: Cool, well-ventilated warehouse ($\leq 30^{\circ}\text{C}$); keep sealed; away from oxidizing agents, heat, sparks.
- Shelf Life: 24 months (unopened).
- Transportation: Handle as UN2051; avoid collision, sunlight, open flames.

7. Safety & Protection

- Wear nitrile gloves, chemical splash goggles, and respirator (vapor exposure) during handling.
- Operate in well-ventilated area; no smoking nearby.
- Avoid skin/eye contact and ingestion; rinse immediately if contact occurs.
- Prevent release to waterways.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch accompanied by COA.
- Provide technical support for application and formulation.

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