

PRODUCT IDENTIFICATION



Product Name: Monoethanolamine (MEA)

CAS Number: 141-43-5

Molecular Formula: C₂H₇NO

Molecular Weight: 61.08 g/mol

Grade: Technical Grade

Purity / Concentration: 100%

Synonyms: Ethanolamine, 2-Aminoethanol

PRODUCT OVERVIEW

Monoethanolamine (MEA) is a high-purity, technical-grade chemical characterized by its colorless, viscous liquid form and 99.2% assay. With a low iron content of 0.1 ppm and minimal water levels, this versatile amino alcohol serves as an essential building block in industrial cleaning, corrosion inhibition, and chemical synthesis.

Grade Significance: Technical grade indicates that this product is manufactured to meet rigorous industrial standards, providing a balance of high purity and cost-effectiveness for large-scale applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.2	98.5	—	Gas Chromatography (GC)
Color (APHA)	APHA	10	—	20	ASTM D1209
Specific Gravity (20°C)	g/mL	1.017	1.015	1.02	ASTM D4052
Residue After Ignition	%	0.0050	—	0.01	USP <281>
Water Content	%	0.2	—	0.5	ASTM E203
Iron (Fe)	ppm	0.1	—	1	ICP-OES

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless, viscous liquid	Odor	Ammonia-like odor
Form	Liquid	Boiling Point	170°C (338°F)
Melting / Freezing Point	10°C (50°F)	Flash Point	85°C (185°F)
Specific Gravity	1.018	Solubility	Soluble in water, alcohol, and various organic solvents
Molecular Formula	C ₂ H ₇ NO	Molecular Weight	61.08 g/mol
Vapor Pressure (20°C)	0.5 mmHg	Viscosity (25°C)	1.0 cP
Refractive Index (20°C)	1.455	Density (25°C)	1.01 g/mL

APPLICATIONS

1. **Detergent Manufacturing** — MEA acts as a vital ingredient in the formulation of surfactants, enhancing the cleaning power and degreasing efficiency of industrial detergents.
2. **Metalworking and Protection** — It is widely used as a corrosion inhibitor to create a protective barrier on metal surfaces, effectively preventing oxidation and rust in harsh industrial environments.
3. **Water Treatment** — This chemical is utilized for precise pH adjustment, ensuring that water treatment processes maintain the optimal chemical balance required for system stability.
4. **Food Processing** — MEA serves as an effective emulsifier in specific food applications, aiding in the stabilization of mixtures to ensure consistent texture and quality.

STORAGE & HANDLING

Proper storage is critical because MEA is a corrosive substance that can cause severe skin burns and eye damage upon contact. It must be stored in a cool, well-ventilated area away from incompatible materials to maintain its chemical integrity and prevent hazardous reactions.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with amines, such as HDPE or stainless steel.
- Avoid contact with strong acids and oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation risks.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H302: Harmful if swallowed [Warning Acute toxicity, oral]
- H312: Harmful in contact with skin [Warning Acute toxicity, dermal]
- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]
- H332: Harmful if inhaled [Warning Acute toxicity, inhalation]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.