

PRODUCT IDENTIFICATION



Product Name: Monoethanolamine (MEA) ACS Grade

CAS Number: 141-43-5

Molecular Formula: C₂H₇NO

Molecular Weight: 61.08 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: Ethanolamine, 2-Aminoethanol

PRODUCT OVERVIEW

Monoethanolamine (MEA), ACS Grade, from Alliance Chemical is a clear, colorless liquid with a minimum assay of 99.1%. This high-purity solvent is commonly used as a mobile phase component in HPLC and for pH adjustment in water treatment. Its quality is assured by ACS Grade specifications.

Grade Significance: ACS Grade Monoethanolamine meets stringent purity standards set by the American Chemical Society. This ensures that the chemical is of high quality and suitable for use in analytical and research applications where accuracy and reproducibility are critical.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.1	98.5	—	Titration
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.0175	1.017	1.02	USP <841>
Residue After Ignition	%	0.0010	—	0.0050	ACS
Water Content	%	0.2	—	0.5	Karl Fischer Titration
Iron (Fe)	ppm	0.1	—	1	ICP-OES
Chloride (Cl ⁻)	ppm	1	—	5	ISE
Sulfate (SO ₄ ²⁻)	ppm	1	—	5	Turbidimetry

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless 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	Miscible with water and many 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)	1.446	Density (25°C)	1.01 g/mL

APPLICATIONS

1. **HPLC** — MEA is commonly used as a mobile phase component in reversed-phase high-performance liquid chromatography (HPLC). It aids in the separation and analysis of organic compounds due to its ability to modify the pH and ionic strength of the mobile phase, enhancing resolution and peak shape.
2. **Water Treatment** — In industrial water treatment, MEA is utilized for adjusting pH levels. Its alkalinity helps neutralize acidic wastewater streams, ensuring compliance with environmental regulations and preventing corrosion of equipment.
3. **Personal Care** — MEA functions as a surfactant in formulations for shampoos and skin care products. It helps emulsify oils and water, creating stable and effective cleansing and moisturizing products.
4. **Metalworking** — MEA acts as a corrosion inhibitor in metalworking fluids. It protects metal surfaces from corrosion by neutralizing acidic byproducts and forming a protective layer, extending the lifespan of tools and equipment.
5. **Chemical Synthesis** — MEA serves as a versatile building block in various chemical syntheses. Its amine and alcohol functionalities allow for a wide range of reactions, making it useful in the production of pharmaceuticals, polymers, and other specialty chemicals.

STORAGE & HANDLING

Proper storage of Monoethanolamine (MEA) is crucial to maintain its purity and prevent degradation. MEA is corrosive and can cause severe skin burns and eye damage, so it should be stored in tightly sealed containers in a cool, dry, and well-ventilated area away from incompatible materials. Exposure to air and moisture can lead to the formation of impurities, affecting its performance in sensitive applications.

- Store in a cool, dry place away from incompatible materials.
- Use HDPE or glass containers for storage to prevent reactions.
- Avoid exposure to moisture and heat to maintain product stability.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles when handling.
- Ensure adequate ventilation in the storage area to minimize inhalation risks.

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.

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