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Product Information

ETHANOLAMINE FREE BASE

Sigma Prod. No. **E9508**

STRUCTURE: $\text{NH}_2\text{-CH}_2\text{-CH}_2\text{-OH}$

CAS NUMBER: 141-43-5

SYNONYMS: Aethanolamin (German), 2-aminoethanol (German), 2-aminoetanolo (Italian), 2-aminoethanol (OSHA), beta-aminoethyl alcohol, colamine, etanolamina (Italian), beta-ethanolamine, ethylolamine, glycinol, beta-hydroxyethylamine, 2-hydroxyethylamine, kolamin (Czech), monoethanolamin (German)

PHYSICAL PROPERTIES:

Appearance: Clear colorless to faint yellow liquid

Molecular formula: $\text{C}_2\text{H}_7\text{NO}$

Formula weight: 61.08 (anhydrous)

Melting Point: 10.3°C^1

Boiling Point: 170.8°C @760 mm Hg¹

Specific Gravity: 1.0117 @25°C with respect to H_2O @4°C¹

pKa = 9.4 @25°C¹

Purity: Not less than 97.5% (HCl titration)

STABILITY / STORAGE AS SUPPLIED:

This product should be stored at room temperature and protected from any exposure to moisture; it is hygroscopic. Sigma has assayed material that has been stored for approximately 2 years at room temperature and the material was essentially unchanged per titration and thin-layer chromatography assays.

SOLUBILITY / SOLUTION STABILITY:

Per *The Merck Index*, 11th ed., p. 588, #3681 (1989), ethanolamine is miscible with water, methanol and acetone. Its solubility at 25°C is 1.4% in benzene, 2.1% in ether, 0.2% in chloroform and less than 0.1% in heptane.¹

Sigma has dissolved as much as 50 microliters in 1 mL of deionized water and observed a clear colorless solution. In aqueous solution this product will slowly oxidize and the solution will turn yellow.

APPLICATIONS:

Per *The Merck Index*, 11th ed., p. 588, #3681 (1989), ethanolamine can be used to remove CO_2 and H_2S from natural gas and other gases. It is used in the synthesis of surface active agents, as a softening agent for hides, as a dispersing agent for agricultural chemicals and in polishes, hair waving solutions and emulsifiers.¹

REFERENCES:

1. *The Merck Index*, 11th ed., p. 588, #3681 (1989).

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