EASTMAN

Technical Data Sheet

Amietol ™ M11

Chemical Synonym

Hydroxyethylmethyleneimine; methyl ethanolamine; methylethylolamine; monomethylethanolamine; monomethylaminoethanol; monomethyl ethanolamine; N-Methyl-2-aminoethanol; N-Methyl-2-ethanolamine; N-Methylethanolamine; N-monomethylaminoethanol

Applications

- Home & industrial care intermediates

Product Description

Amietol M11 (MMEA) is a clear hygroscopic liquid with an amine-like odor. The freshly distilled product is colorless, but prolonged storage may cause a yellowish discoloration.

Principal applications for Amietol M11 include:

- Precursor for detergents, fabric softeners
- Additive for coatings and resins
- Component for gas sweetening solutions
- Additive for optical brighteners
- Fine chemicals, pharmaceuticals

Typical Properties

Property	Typical Value, Units
General	
Molecular Formula	C_3H_9NO
Molecular Weight	75.11 g/mol
Appearance	Colorless liquid
Autoignition Temperature	350 °C
Boiling Point	160 °C
Critical Pressure	52 200 hPa
Critical Temperature	357 °C
Density @ 20°C	0.94 g/cm^3
Dissociation constant, pKa @ 20°C	9.95
Flash Point Closed Cup	76 °C
Freezing Point	-4.5 °C
Heat Capacity @ 20°C	2.022 kJ/kg·K
Heat of Formation	-198 000 kJ/kmol
Octanol-water partition coefficient, log Pow	-0.91
pH 100 g/l @ 20°C	13.6
Refractive Index	

@ 20°C	1.4389
Solubility in Water	Miscible
Surface Tension @ 22°C	34.4 mN/m
Thermal Conductivity @ 20°C	0.187 W/m·K
Vapor Density (air = 1)	2.6
Vapor Pressure @ 30.6°C	2.01 hPa
Viscosity @ 20°C	17.8 mPa·s

Physical & chemical behavior

Amietol® M11 (MMEA) is miscible in all proportions with water. It is also soluble in most organic solvents.

Chemically it behaves as both a secondary amine and an alcohol. Neutralisation of the amino function by acids results in salt formation.

The product is relatively stable at elevated temperatures but must be kept away from oxidants and acids.

Packaging

- Bulk
- Steel drums (195 kg net)
- IBC containers (945 kg net)

Storage

Carbon steel is adequate for storage of MMEA.

Stainless AISI 316 L is preferable if color stability is to be maintained over long periods.

Copper and copper alloys should be avoided.

For bulk storage a nitrogen atmosphere is necessary to prevent the absorption of moisture and discoloration.

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