



Dow N-methyldiethanolamine (MDEA)

Product Description

Dow N-methyldiethanolamine (MDEA) is a tertiary amine. As with Dow's family of alkyl alkanolamines, MDEA is a versatile, polyfunctional molecule that combines the characteristics of amines and alcohols. MDEA is capable of undergoing reactions typical of both alcohols and amines, forming quaternary amine salts, soaps, and esters. This makes MDEA a useful intermediate in the synthesis of numerous products, and has resulted in its use in many diverse areas, including coatings, textile lubricants, polishes, detergents, pesticides, personal care products, and pharmaceuticals.

Features and Benefits

Coatings

- In water- and solvent-based coatings, increases solubility of other components and enhances solution stability

Household Specialties and Personal Care, Textiles, and Lubricants

- When reacted to form surface-active soaps, produces an excellent emulsifying and dispersing agent

Pharmaceuticals

- Widely used as intermediate for production of active pharmaceutical ingredients (e.g. analgesics)

Typical Physical Properties⁽¹⁾

Properties	N-Methyldiethanolamine
Formula	CH ₃ N-(CH ₂ CH ₂ OH) ₂
Molecular Weight	119.16
CAS Number	105-59-9
Specific Gravity at 20/20°C	1.041
Sp. Gr./ Δt °C	0.00076
Boiling Point, °C at 760 mm Hg	247.3
At 50 mm Hg, °C	163.5
At 10 mm Hg, °C	128.6
Vapor Pressure at 20°C, mm Hg	<0.01
Freezing Point, °C (°F), (Pour Point)	-21 (-6)
Solubility at 20°C, % by wt	
In Water	Complete
Water In	Complete
Viscosity, cP	
At 20°C	101
At 40°C	33.8
Refractive Index, n _D , 20°C	1.4694
Heat of Combustion, BTU/lb (cal/g) at 25°C	-12,200 (-6780)
Flash Point, Pensky-Martens Closed Cup (ASTM D93), °C (°F)	138 (280)

(1) Data represent typical physical properties only and should not be construed as product specifications.

Product Stewardship

Dow encourages its customers and potential users to review their applications from the standpoint of human health and environmental aspects. To help ensure that Dow products are not used in ways for which they are not intended or tested, Dow personnel will assist customers in dealing with environmental and product safety considerations. Dow literature, including Material Safety Data Sheets, should be consulted by customers or potential users prior to use.

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