



DOW Diisopropanolamine (DIPA)

DIPA Commercial Grade, DIPA Low Freeze Grade 90, & DIPA Low Freeze Grade 85

Product Description

DOW Diisopropanolamine (DIPA) is a basic chemical used in many applications serving as emulsifiers, stabilizers, chemical intermediates and neutralizers that achieve basicity, buffering and alkalinity objectives. Because DIPA is a good solubilizer of oil and fat, it is frequently used to neutralize fatty acids and sulfonic acid-based surfactants.

Major applications include personal care and metalworking products. DIPA is also used in coatings, pesticides, paint strippers, paper, photographic intermediates, plastics, polyurethane additives, reaction intermediates, surfactants, textiles and urethanes.

DOW Diisopropanolamine is available as DIPA Commercial Grade, DIPA Low Freeze Grade 90, & DIPA Low Freeze Grade 85.

- DIPA Commercial Grade—This commercial grade diisopropanolamine is a secondary amine.
- DIPA LFG 90—This diisopropanolamine is a low freeze grade variation of DIPA for easier handling in colder ambient temperatures (freezing point: 23°C/73.4°F). It is a blend of 90% DIPA and 10% deionized water.
- DIPA LFG 85—This diisopropanolamine is a low freeze grade variation of DIPA for easier handling in colder ambient temperatures (freezing point: 13°C/55.4°F). It is a blend of 85% DIPA and 15% deionized water.

Features and Benefits

Personal Care

- Neutralization of acidic components
- pH contributor
- Good surfactant properties—emulsifying agent, wetting agent, contributes cleaning, lubrication and viscosity

Metalworking

- As tall oil amides for water-based metalworking fluids, offers some corrosion protection, improved lubricity, foam suppression, and also reduces friction in buffing, cutting and cleaning fluids

Typical Physical Properties⁽¹⁾

Properties	DIPA	DIPA LFG 90	DIPA LFG 85
Formula	[CH ₃ CH(OH)CH ₂] ₂ NH		
Molecular Weight	133.19		
CAS Number	110-97-4	110-97-4 7732-18-5 ⁽²⁾	110-97-4 7732-18-5 ⁽²⁾
Physical Form	Solid	Liquid	Liquid
Vapor Pressure at 50°C, mm Hg	0.035		
Boiling Point, °C (°F) at 760 mm Hg	249 (480)	116 (241)	111 (232)
Freezing Point, °C (°F)	44 (111.2) ⁽³⁾	23 (73.4) ⁽³⁾	13 (55.4) ⁽³⁾
Flash Point, H.T. Setflash, °C (°F)	135.5 (276)	None ⁽⁴⁾	None ⁽⁴⁾
Specific Gravity at 40/4°C	0.992		
At 25/4°C		1.015	1.019
Pounds per gallon at 40°C	8.27		
At 25°C		8.46	8.50
Viscosity, cps			
At 30°C/54°C	870/86		
At 25°C/54°C		790/50	450/38
Solubility at 25°C, gm/100gm			
ACE	810		
MEOH	670		
ETH	9		
H ₂ O	1200		

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

(2) H₂O

(3) Supercools: freezing point results show variation

(4) L.T. Setflash; no flashpoint observed up to the boiling point. See flashpoint of DIPA.

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 and potential users prior to use.

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