HUNTSMAN
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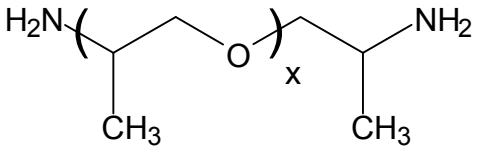
Technical Bulletin

JEFFAMINE® D-400 Polyetheramine

JEFFAMINE D-400 polyetheramine is characterized by repeating oxypropylene units in the backbone. As shown by the representative structure, JEFFAMINE D-400 polyetheramine is a difunctional, primary amine with average molecular weight of about 430. The primary amine groups are located on secondary carbon atoms at the end of the aliphatic polyether chains.



x ≈ 6.1

APPLICATIONS
- Epoxy curing agent that provides increased flexibility and toughness
- Used in polyurethanes, polyureas, and thermoplastic polyamide adhesives
- Salts may be formed for use in cutting fluids

BENEFITS
- Low viscosity, color and vapor pressure
- Completely miscible with a variety of solvents

SALES SPECIFICATIONS

Property	Specifications	Test Method*
Appearance, 25°C	Colorless to pale yellow liquid with slight haze permitted	ST-30.1
Color, Pt-Co	30 max.	ST-30.12
Primary amine, % of acetylatables	Report	ST-5.34
Primary amine, % of total amine	97 min.	ST-5.34
Total acetylatables, meq/g	4.2 – 4.9	ST-31.39
Total amine, % of acetylatables	Report	ST-5.35
Total amine, meq/g	4.1 – 4.7	ST-5.35
Water, wt%	0.25 max.	ST-31.53, 6

*Methods of Test are available from Huntsman Corporation upon request.

ADDITIONAL INFORMATION

Regulatory Information

DOT/TDG Classification	Amines, liquid, corrosive, N.O.S. (polyoxypropylenediamine)
HMIS Code	3-1-0
CAS Number	9046-10-0
US, TSCA	Listed
Canadian WHMIS Classification	E
Canada, DSL	Listed
European Union, EINECS/ELINCS	Polymer Exempt
Australia, AICS	Listed
Japan, ENCS	Contact Huntsman Regulatory
Korea, ECL	Listed
China, IECSC	Listed

Typical Properties

AHEW (Amine hydrogen equivalent wt.), g/eq	115
Equivalent wt. with isocyanates, g/eq	230
Viscosity, cSt, 25°C (77°F)	22
Density, g/ml (lb/gal) 25°C	0.972 (8.10)
Flash point, PMCC, °C (°F)	163 (325)
pH, 5% aqueous solution	11.6
Refractive index, n_D^{20}	1.4482
Vapor pressure, mm Hg/°C	1/165
	10/193

TOXICITY AND SAFETY

For additional information on the toxicity and safe handling of this product, consult the Material Safety Data Sheet (Safety Data Sheet in Europe) prior to use of this product.

HANDLING AND STORAGE

Materials of Construction

At temperatures of 75-100°F (24-38°C)

Tanks	Carbon steel
Lines, valves	Carbon steel
Pumps	Carbon steel
Heat exchange Surfaces	Stainless steel
Hoses	Stainless steel, polyethylene, polypropylene, and TEFLON®[1]
Gaskets, packing	Polypropylene or TEFLON®[1] (elastomers such as neoprene, Buna N, and VITON®[1] should be avoided)
Atmosphere	Nitrogen or dry air

At temperatures above 100°F (38°C)

Tanks	Stainless steel or aluminum
Lines, Valves	Stainless steel
Pumps	Stainless steel or Carpenter 20 equivalent
Atmosphere	Nitrogen

[1]VITON® and TEFLON® are registered trademarks of Dupont.

JEFFAMINE® D-400 polyetheramine may be stored under air at ambient temperatures for extended periods. A nitrogen blanket is suggested for all storage, however, to reduce the effect of accidental exposure to high temperatures and to reduce the absorption of atmospheric moisture and carbon dioxide. It should be noted that pronounced discoloration is likely to occur at temperatures above 140°F (60°C), whatever the gaseous pad.

Cleanout of lines and equipment containing JEFFAMINE D-400 polyetheramine can be accomplished using warm water and steam. In the event of spillage of this product, the area may be flushed with water. The proper method for disposal of waste material is by incineration with strict observance of all federal, state, and local regulations.

AVAILABILITY

JEFFAMINE® D-400 polyetheramine is available in tank cars, tank wagons, 55-gallon (208L) drums of 440 pounds (200kg) net weight, and 5-gallon (19L) cans. Samples are available in North America and Asia by contacting our sample department at 1-800-662-0924. Samples in other locations, including Europe, are available by contacting any Huntsman Corporation sales office.

Main Offices US: Huntsman Corporation / 10003 Woodloch Forest Drive / The Woodlands, Texas 77380 / 281-719-6000
Technical Service US: 8600 Gosling Road / The Woodlands, Texas 77381 / 281-719-7780

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Technical Service Europe: Technical Services Representative / Everberg Office / 32-2-758-9392

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