

Technical Bulletin

JEFFAMINE[®] THF-140 Polyetheramine

JEFFAMINE[®] THF-140 polyetheramine is a diamine of approximately 1400 molecular weight, based on a PTMEG [poly(tetramethylene ether glycol)]/PPG (polypropylene glycol) copolymer. Polyetheramines of this type are useful in a variety of polymers, including cured epoxy resins, polyurea, and polyamides. In particular, higher molecular weight polyetheramines are effective in flexibilizing and promoting adhesive peel strength in epoxy formulations. They have also been used to improve flexibility and low temperature properties of polyamides. Like most other polyetheramines, the JEFFAMINE THF-140 polyetheramine has amine groups that are adjacent to methyl groups, which moderates their reactivity somewhat.

- APPLICATIONS**
- Modification of polyurea formulations
 - Modification of epoxy resins and other thermoset resins

- BENEFITS**
- Improved anticorrosion property in polyurea formulations
 - Increasing flexibility and adhesion in cured epoxy resins and other thermoset polymers
 - Improved mechanical properties from PTMEG segment
 - Amine end group more reactive than alcohol

SALES SPECIFICATIONS

<u>Property</u>	<u>Specifications</u>	<u>Test Method*</u>
Appearance	Colorless to pale yellow liquid slight haze permitted	ST-30.1
Color, Pt-Co	50 max.	ST-30.12
Primary amine, % of total amine	98 min.	ST-5.34
Total acetylatables, meq/g	1.39 – 1.49	ST-31.39
Total amine, meq/g	1.35 – 1.46	ST-5.35
Water, wt%	0.50 max.	ST-31.53, 6

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

ADDITIONAL INFORMATION

Regulatory Information

DOT/TDG Classification	Amines, liquids, corrosive, N.O.S. (polyetheramine)
HMIS Code	3-1-0
CAS Number	796093-55-5
US, TSCA	Listed
Canadian WHMIS Classification	D1B, E
Canada, DSL	Not Listed
European Union, EINECS/ELINCS	Polymer Exempt
Australia, AICS	Not Listed
Japan, METI	Not Listed
Korea, ECL	Not Listed
China, IECSC	Not Listed

Typical Physical Properties

AHEW (Amine hydrogen equivalent wt.), g/eq	355
Equivalent wt. with isocyanates, g/eq	710
Viscosity, cSt, 40°C (104°F)	234
Density, g/ml (lb/gal), 25°C	0.977 (8.14)
Flash point, PMCC, °C (°F)	246 (475)
pH	11.8
Melting point**, °C (°F)	16 (60.8)

** Crystallizes at room temperature over several months

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 (34-38°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

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JEFFAMINE[®] THF-140 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[®] THF-140 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

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.

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