

Advance Technical Bulletin

ELASTAMINE[®] HE-1700

PRODUCT DESCRIPTION

ELASTAMINE[®] HE-1700 is an amine of approximately 1700 average molecular weight, based on a PEG poly(ethylene glycol). It is a mixture of diamine and triamine, and it contains a significant amount of secondary amine as well as primary amine. Polyetheramines of this type may be useful in a variety of polymers, including cured epoxy resins, polyurea, and polyamides. In particular, higher molecular weight polyetheramines are effective in improving flexibility and low temperature properties of polyamides. They have also been used to flexibilize and promote adhesion peel strength in epoxy formulations. The hydrophilicity of the PEG segments may be useful in improving antistatic properties or water solubility/dispersity in various polymers. Also, the presence of the less reactive secondary amine in the polymer chain provides the opportunity for further reaction and polymer functionalization.

- APPLICATIONS**
- Increasing flexibility and adhesion in thermoplastic and thermoset polymers
 - Increasing surface energy (polarity, hydrophilicity) in nonpolar polymers

- BENEFITS**
- Amine end group more reactive than alcohol
 - Higher surface energy may improve paintability, dyeability, etc. in nonpolar polymers
 - Hydrophilicity from PEG may improve antistatic properties

PROPOSED SALES SPECIFICATIONS

<u>Property</u>	<u>Specifications</u>	<u>Test Method*</u>
Appearance	White waxy solid, free of of foreign material	ST-30.1
Color, Pt-Co	50 max.	ST-30.12
Total acetyltables, meq/g	1.55 – 1.75	ST-31.39
Total amine, meq/g	1.4 min	ST-5.22
Secondary + tertiary amine, meq/g	0.25 min	ST-5.34
Conversion, total amine as % of total acetyltables	95 min.	Calculated
Water, wt. %	0.5 max.	ST-31.53,6

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

ADDITIONAL INFORMATION

Regulatory Information

DOT/TDG Classification	See MSDS
HMIS Code	3-1-0
CAS Numbers	90350-34-8, 24991-53-5
TSCA Inventory	R&D only
WHMIS Classification	E
Canadian DSL	Not Listed
Canadian NDSL	Not Listed
EINECS/ELINCS Classification	EINECS Exempt
ENCS	Not Listed
ECL	Not Listed

Typical Properties

Flash point, PMCC, °C (°F)	>150 (>302)
Viscosity, cSt, 50°C	107
Melting point, °C	approx. 46

TOXICITY AND SAFETY

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

HANDLING AND STORAGE

While the ELASTAMINE HE-1700 amine may be stored under air at ambient temperatures for extended periods, a nitrogen blanket is suggested for all storage in case of accidental high temperatures. It should be noted that pronounced discoloration is likely to occur at temperatures above 140°F, whatever the gaseous pad.

In the event of spillage of this product, the area may be flushed with water. The proper method of disposal of waste material is by incineration with strict observance of all federal, state, and local regulations.

MATERIALS OF CONSTRUCTION**At temperatures up to 100°F**

Tanks	Carbon steel
Lines, valves	Carbon steel
Pumps	Carbon steel
Heat exchange surfaces	Stainless steel
Hoses	Stainless steel, polyethylene, polypropylene, 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

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

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SHIPPING DATA

Product is currently in development. Small samples are available upon request.

5286-0811

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