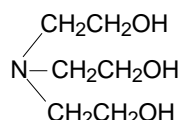


## Technical Bulletin

### TEA 99% LD

[CAS 102-71-6]

#### STRUCTURE



#### DESCRIPTION

TEA 99% LD is a clear, viscous, hygroscopic liquid at room temperature.

#### APPLICATIONS

- intermediate in the manufacture of cosmetics, surface-active agents, textile specialties, waxes and polishes, herbicides, petroleum demulsifiers, toilet goods, cement additives, cutting oils, and photographic film developers
- corrosion inhibitor
- dispersant for dyes, casein, shellac, and rubber latex
- sequestering agent
- rubber chemicals intermediate

### SALES SPECIFICATIONS

<u>Property</u>	<u>Specifications</u>	<u>Test Method*</u>
Appearance	Clear and substantially free of foreign matter	ST-30.1
Color, Pt-Co	40 max.	ST-30.12
Composition, wt%		ST-35.99
Triethanolamine	99.0 min.	
Diethanolamine	0.05 max.	
Monoethanolamine	0.1 max.	
Equivalent weight	148 - 150	ST-5.5
Iron, ppm	10 max.	ST-37.1
Specific gravity, 20/20°C	1.1240 - 1.1270	ST-30.31
Water, wt%	0.2 max.	ST-31.53, 5

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

### ADDITIONAL INFORMATION

#### Regulatory Information

See SDS for all regulatory information.

#### Typical Properties

Boiling point, 760 mm Hg, °F / °C	680 / 360
Flash point, PMCC, °F / °C	395 / 201
Melting point, °F / °C	70 / 21
pH	11
Vapor pressure, mm Hg, 20°C (68°F)	<0.01
Viscosity, cSt, 25°C (77°F)	527
Weight, lb/US gal, 20°C (68°F)	9.38

**TOXICITY AND SAFETY**

For information on the toxicity and safe handling of this product, read the Safety Data Sheet prior to use of the product.

**HANDLING AND STORAGE**

TEA 99% LD may be satisfactorily stored in carbon steel, stainless steel, or aluminum tanks using steel pipes and pumps. Caution must be exercised, however, to keep the material in the anhydrous state to prevent severe corrosion to the carbon steel or aluminum tank and related equipment. A drier on the breathing nozzle is recommended to help maintain anhydrous conditions in the storage tank.

For longer term color stability, it is recommended that the product be stored under an inert atmosphere. Solid sediment may form upon standing. There should be circulation in the storage vessel to keep solids suspended.

Low pressure steam coils in storage tanks and heat tracing of transfer lines should be provided in cases where low environmental temperatures may make pumping of the product difficult.

**SHIPPING DATA**

Product is available in coiled tank cars, tank wagons in certain areas, and steel drums of 520 pounds (235 kilograms) net weight. Small samples are available by contacting our sample department at 1-800-662-0924.

**BIODEGRADABILITY AND ENVIRONMENTAL SAFETY**

TEA 99% LD undergoes moderate biodegradation and is not expected to be persistent in the environment.

**Huntsman Corporation  
Business Offices**  
10003 Woodloch Forest Dr.  
The Woodlands, TX 77380  
(281) 719-6000

**Huntsman Advanced Technology  
Center**  
**Technical Service**  
8600 Gosling Rd.  
The Woodlands, TX 77381  
(281) 719-7780

**Samples 1-800-662-0924**

**www.huntsman.com**

4010-0315

Copyright © 2015 Huntsman Corporation or an affiliate thereof. All rights reserved.

Huntsman Corporation warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, HUNTSMAN MAKES NO WARRANTY OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT OF ANY THIRD PARTY, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND ANY USER OF PRODUCTS DESCRIBED HEREIN SHOULD CONDUCT A SUFFICIENT INVESTIGATION TO ESTABLISH THE SUITABILITY OF ANY PRODUCT FOR ITS INTENDED USE AND ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES. Products may be toxic and require special precautions in handling. For all products described herein, the user should obtain detailed information on toxicity, together with proper shipping, handling, and storage procedures, and should comply with all applicable safety and environmental standards. The behavior, hazards and/or toxicity of the products referred to in this publication in manufacturing processes and their suitability in any given end-use environment are dependent upon various conditions such as chemical compatibility, temperature, and other variables, which may not be known to Huntsman. It is the sole responsibility of the user of such products to evaluate the manufacturing circumstances and the final products under actual end-use requirements and to adequately advise and warn future purchasers and users thereof.