Technical Bulletin

TEA 99% LD
[CAS 102-71-6]

STRUCTURE

\[
\begin{align*}
&\text{CH}_2\text{CH}_2\text{OH} \\
N &\text{CH}_2\text{CH}_2\text{OH} \\
&\text{CH}_2\text{CH}_2\text{OH}
\end{align*}
\]

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

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

*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.