DIETHANOLAMINE
[CAS 111-42-2]

STRUCTURE

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\text{CH}_2\text{CH}_2\text{OH} \\
\text{CH}_2\text{CH}_2\text{OH}
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Mol. Wt. 105.14

DESCRIPTION
A clear, colorless, hygroscopic liquid with a mild ammoniacal odor at temperatures higher than room temperature. At room temperature, the product is a white, crystalline solid.

APPLICATIONS
An intermediate in the manufacture of cosmetics, surface-active agents used in textile specialties, herbicides, and petroleum demulsifiers; as a gas scrubber in refinery and natural gas operations; waxes, polishes, and coatings emulsifiers; soluble oils; and corrosion inhibitors.

SALES SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Specifications</th>
<th>Test Method*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance, 30°C</td>
<td>Clear and substantially free of suspended matter</td>
<td>ST-30.1</td>
</tr>
<tr>
<td>Color, Pt-Co</td>
<td>15 max.</td>
<td>ST-30.12</td>
</tr>
<tr>
<td>Composition, wt%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>99 min.</td>
<td>ST-35.99</td>
</tr>
<tr>
<td>Monoethanolamine</td>
<td>0.5 max.</td>
<td></td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>0.5 max.</td>
<td></td>
</tr>
<tr>
<td>Equivalent weight</td>
<td>104 – 106</td>
<td>ST-5.5</td>
</tr>
<tr>
<td>Water, wt%</td>
<td>0.15 max.</td>
<td>ST-31.53, 6</td>
</tr>
</tbody>
</table>

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

ADDITIONAL INFORMATION

Regulatory Information
- DOT Classification: Environmentally hazardous substances, solid, n.o.s. (Diethanolamine)
  - Hazard Class 9, UN 3077, Packing Group III
- TDG Classification: Not Regulated
- HMIS Code: 2-1-0
- TSCA Inventory: Yes
- WHMIS Classification: D2A, D2B
- Canadian DSL: Yes

Typical Values
- Boiling point, 760 mm Hg, °C: 269 (decomposes)
- Flash point, PMCC, °F: 349
- Melting point, °C: 28
- pH: 11.5
- Specific gravity, 30/20°C: 1.0919
- Vapor pressure, 20°C, mm Hg: <0.01
- Viscosity, cSt, 30°C: 321
- Weight, 30°C, lb/gal: 9.1
TOXICITY AND SAFETY

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

HANDLING AND STORAGE

Diethanolamine 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 drums of 490 pounds (222 kilograms) net weight. Small samples are available by contacting our sample department at 1-800-662-0924.

BIODEGRADABILITY AND ENVIRONMENTAL SAFETY

Diethanolamine undergoes moderate biodegradation and is not expected to be persistent in the environment.