Morpholine is a colorless, mobile, hygroscopic liquid with characteristic amine-like odor.

**APPLICATIONS**
A corrosion inhibitor, especially in steam boiler systems; an emulsifier for cosmetics, rubless waxes, and polishes; a separating agent for volatile amines; an intermediate in the manufacture of optical brighteners; an intermediate for textile lubricants, softening agents, adjuvants, whitening agents, sizing emulsifiers, rubber vulcanization accelerators, antioxidants, surface-active agents, plasticizers, viscosity improvers, insecticides, fumigants, herbicides, dyes, catalysts, bactericides, analgesics, anesthetics, and other physiologically active agents.

### 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 suspended matter</td>
<td>ST-30.1</td>
</tr>
<tr>
<td>Color</td>
<td>15 max.</td>
<td>ST-30.12</td>
</tr>
<tr>
<td>Morpholine, wt%</td>
<td>99.0 min</td>
<td>ST-35.179</td>
</tr>
<tr>
<td>Specific gravity, 20/20°C</td>
<td>1.001 min. – 1.004 max.</td>
<td>ST-30.31</td>
</tr>
<tr>
<td>Water, wt%</td>
<td>0.3 max.</td>
<td>ST-31.53, 6</td>
</tr>
</tbody>
</table>

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

### ADDITIONAL INFORMATION

**Typical Physical Properties**
- Boiling point, °C (°F): 128 (263)
- Flash point, TCC, °C (°F): 35 (95)
- Melting point, °C (°F): -5 (23)
- pH: 11.2
- Specific gravity, 20/20°C: 1.0
- Vapor pressure, mmHg, 20°C (68°F): 7
- Viscosity, cSt, 20°C (68°F): 2
- VOC Content (%), by ASTM D 2369: 100
- Water solubility (%): > 10
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
For detailed information on the storage and handling of Morpholine, see our bulletin on “Storage and Handling of Morpholine.”

AVAILABILITY
Morpholine is available in coiled tank cars (tank wagons in certain areas) and 55-gallon drums containing 460 pounds net weight. Samples are available by contacting our sample department at 1-800-662-0924.