Technical Bulletin

JEFFAMINE® D-2010 Polyetheramine

JEFFAMINE D-2010 polyetheramine is characterized by repeating oxypropylene units in the backbone. As shown by the representative structure, JEFFAMINE D-2010 polyetheramine is a difunctional, primary amine with average molecular weight of about 2000. The primary amine groups are located on secondary carbon atoms at the end of the aliphatic polyether chains.

\[
\begin{align*}
\text{H}_2\text{N} & \quad \bigg( \text{O} \bigg)_{\approx 33} \quad \text{NH}_2 \\
\text{CH}_3 & \quad \text{CH}_3
\end{align*}
\]

APPLICATIONS
- Key ingredient in the formulation of polyurea and RIM
- Co-reactant in epoxy systems which require increased flexibility and toughness

BENEFITS
- Low viscosity, color and vapor pressure
- Improved flexibility from high molecular weight polyether backbone
- Increases peel strength

SALES SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Specifications</th>
<th>Test Method*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless to pale yellow liquid with slight haze permitted</td>
<td>ST-30.1</td>
</tr>
<tr>
<td>Color, Pt-Co</td>
<td>25 max.</td>
<td>ST-30.12</td>
</tr>
<tr>
<td>Primary amine, % of total amine</td>
<td>97 min.</td>
<td>ST-5.34</td>
</tr>
<tr>
<td>Total acetylatables, meq/g</td>
<td>0.95 – 1.1</td>
<td>ST-31.39</td>
</tr>
<tr>
<td>Total amine, meq/g</td>
<td>0.90 – 1.05</td>
<td>ST-5.22</td>
</tr>
<tr>
<td>Water, wt%</td>
<td>0.25 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
See SDS for all regulatory information.

Typical Properties
- Flash point, PMCC, °C (°F): 185 (365)
- AHEW (amine hydrogen equivalent wt.), g/eq: ~514
- Equivalent wt. with isocyanates, g/eq: ~1030
- Density, g/ml, 25°C (77°F): 0.991
- Weight, lb/US gal, 25°C (77°F): 8.26
- Viscosity, cSt, 25°C (77°F): 248
- pH, 5% aqueous solution: 10.5
TOXICITY AND SAFETY
For additional information on the toxicity and safe handling of this product, consult the Safety Data Sheet prior to use of this product.

HANDLING AND STORAGE
Materials of Construction
At temperatures of 75-100°F (24-38°C)
- Tanks: Carbon steel
- Lines, valves: Carbon steel
- Pumps: Carbon steel
- Heat exchange Surfaces: Stainless steel
- Hoses: Stainless steel, polyethylene, polypropylene, and TEFLON®
- Gaskets, packing: Polypropylene or TEFLON® (elastomers such as neoprene, Buna N, and VITON® should be avoided)
- Atmosphere: Nitrogen or dry air

At temperatures above 100°F (38°C)
- Tanks: Stainless steel or aluminum
- Lines, Valves: Stainless steel
- Pumps: Stainless steel or Carpenter 20 equivalent
- Atmosphere: Nitrogen

JEFFAMINE® D-2010 polyetheramine may be stored under air at ambient temperatures for extended periods. A nitrogen blanket is suggested for all storage, however, to reduce the effect of accidental exposure to high temperatures and to reduce the absorption of atmospheric moisture and carbon dioxide. It should be noted that pronounced discoloration is likely to occur at temperatures above 140°F (60°C), whatever the gaseous pad.

Cleanout of lines and equipment containing JEFFAMINE D-2010 polyetheramine can be accomplished using warm water and steam. In the event of spillage of this product, the area may be flushed with water. The proper method for disposal of waste material is by incineration with strict observance of all federal, state, and local regulations.

AVAILABILITY
JEFFAMINE D-2010 polyetheramine is available in tank cars, tank wagons, and 55-gallon (208L) drums of 440 pounds (200kg) net weight. Samples are available in North America by contacting our sample department at 1-800-662-0924. In other regions, samples can be obtained by contacting any Huntsman Corporation sales office.