**D.E.H.™ 2720**

Experimental Epoxy Curing Agent

**Description**

D.E.H.™ 2720 hardener is a modified cycloaliphatic polyamine. It can be formulated with liquid Bisphenol A and/or Bisphenol F epoxy resins for low temperature applications and for good adhesion on mineral substrates. Manufactured without benzyl alcohol and alkyl phenol.

**Advantages**

- Excellent adhesion on mineral substrates
- Very fast cure
- Good viscosity

**Typical Applications**

This product is suitable for use in applications such as:

- Mortars
- Adhesives
- Applications where low odor and low emissions are critical

**Typical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Visual</td>
<td>yellow</td>
</tr>
<tr>
<td>Color, Gardner</td>
<td>Max 4</td>
<td></td>
</tr>
<tr>
<td>Density @ 25°C (g/ml)</td>
<td>ASTM D4052</td>
<td>0.98</td>
</tr>
<tr>
<td>Viscosity @ 25°C (mPa•s)</td>
<td>ASTM D4287</td>
<td>4200 ± 1000</td>
</tr>
<tr>
<td>Amine value [mgKOH/g]</td>
<td>ISO 9702</td>
<td>320.6</td>
</tr>
<tr>
<td>Amine Hydrogen Equivalent Weight</td>
<td>calculated</td>
<td>190</td>
</tr>
<tr>
<td>Shelf Life (Months)</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

(1) Typical properties, not to be construed as specifications.

**Typical Handling Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry time (hrs)</td>
<td>ASTM D1640-03</td>
<td>5</td>
</tr>
<tr>
<td>Gel Time (min/100 g mass @25°C)</td>
<td>D.E.R.™324</td>
<td>D.E.R. 331™</td>
</tr>
<tr>
<td>Mix ratio, phr (weight)</td>
<td></td>
<td>95</td>
</tr>
</tbody>
</table>

(2) Tested by Paul N. Gardner Standard Model Gel Timer

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D.E.H. 2720 Epoxy Curing Agent

Form No. 296-01977-0412-SM
Typical Performance Properties

<table>
<thead>
<tr>
<th>Property (3)</th>
<th>Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mix ratio, phr (weight)</td>
<td>95 102</td>
<td></td>
</tr>
<tr>
<td>Film appearance</td>
<td>Visual</td>
<td>Glossy</td>
</tr>
<tr>
<td>Glass Transition Temperature (°C) (4)</td>
<td>48 65</td>
<td></td>
</tr>
<tr>
<td>Hardness Shore D</td>
<td>ASTM D2240</td>
<td>74 80</td>
</tr>
<tr>
<td>Blushing</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>@ 25°C/50% relative humidity</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Flexural Strength (psi)</td>
<td>130 12270</td>
<td></td>
</tr>
<tr>
<td>Flexural Modulus (thousand psi)</td>
<td>31 417</td>
<td></td>
</tr>
<tr>
<td>Tensile Strength (psi)</td>
<td>507 7716</td>
<td></td>
</tr>
<tr>
<td>Tensile Modulus (thousand psi)</td>
<td>23 499</td>
<td></td>
</tr>
<tr>
<td>Elongation %</td>
<td>Exceeded maximum equipment load</td>
<td>6.6</td>
</tr>
</tbody>
</table>

(3) Unless otherwise specified, properties obtained after more than 7 days cure at ambient temperature
(4) Glass transition temperature measured by DMTA

Emission testing

Method 24 is a method recommended by EPA to measure the volatile organic compound (VOC) content of coatings. It references several American Society of Testing and Materials (ASTM) methods, but the basic premise is an indirect measurement of the VOC content of the coatings. First the non-volatile content is determined by drying a known weight of coating and determining the amount of dry film left (this is the non-volatile portion). After, the volatile fraction of sample is determined by subtracting the non-volatile portion from the initial weight of sample.

D.E.H. 2720 is formulated without alkylphenols and benzyl alcohol, facilitating very low volatile organic component (VOC) systems. A clear system with D.E.R. 324 and D.E.H. 2720 was tested using the method. The results showed less than 50g of VOC/L of coating.
**Safety and Handling**

The Dow Chemical Company provides its customers with a product specific Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) to cover potential health effects, safe handling, storage, use and disposal information. Dow strongly encourages its customers to review the MSDS or SDS on its products and other materials prior to their use.

This curing agent should retain its chemical properties for a period of at least 12 months.

For further handling information consult the Dow the technical bulletin *Product Coding, Shelf-life and Storage Stability*, Form No. 296-01657.

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Dow will not knowingly sell or sample any product or service (“Product”) into any commercial or developmental application that is intended for:

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(b) use in cardiac prosthetic devices regardless of the length of time involved (cardiac prosthetic devices include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems and ventricular bypass assisted devices);
(c) use as a critical component in medical devices that support or sustain human life; or
(d) use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Additionally, all Products intended for use in pharmaceutical applications must pass the then current Pharmaceutical Liability Guidelines. For additional information please contact your regular Dow representative.

Food Contact Applications

This epoxy curing agent will not comply with the U.S. Food, Drugs and Cosmetics Act as amended under Food Additive Regulation 21 CFR 175.300.

Also consult the Dow data sheet, Food Additive Status for Epoxy Resins, Curing Agents and Epoxy Novolac Resins, Form No. 296-01425.

Regulatory Status

For more information on the regulatory status of this product, please refer to the MSDS or SDS for this product.

Chemical Inventory Listing

United States

China

TSCA

SEPA

(1) Please refer to the MSDS or SDS for this product to ensure this CAS number is consistent with the product(s) you use.

Contact information:

North America: 800-441-4369
+1-989-832-1426
+1-989-832-1465 (fax)

Mexico: +1-800-441-4369

Brazil: +55-11-5188-9222
+55-11-5188-9749 (fax)

Europe: +800-3-694-4367
+32-3-450-2240
+32-3-450-2815 (fax)

Asia Pacific: +800-7776-7776^a
+800-7779-7779 (fax)
+60-3-7958-3392
+60-3-7958-5598 (fax)

^a except Indonesia and Vietnam

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