Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>EPOXY RESIN HARDENER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Code:</td>
<td>70715</td>
</tr>
<tr>
<td>Document ID:</td>
<td>M70715</td>
</tr>
<tr>
<td>Company:</td>
<td>NEOGARD® - a Division of JONES-BLAIR® Company</td>
</tr>
<tr>
<td></td>
<td>2728 Empire Central</td>
</tr>
<tr>
<td></td>
<td>Dallas, TX 75235</td>
</tr>
<tr>
<td></td>
<td>1-214-353-1600</td>
</tr>
<tr>
<td>Revision Number:</td>
<td>4</td>
</tr>
<tr>
<td>Prior Version Date:</td>
<td>12-01-2011</td>
</tr>
<tr>
<td>Chemical Family:</td>
<td>Epoxy Hardener</td>
</tr>
<tr>
<td>Intended use:</td>
<td>Epoxy Coating Polyamide Co-Reactant</td>
</tr>
<tr>
<td>Emergency Contact:</td>
<td>ChemTrec Center</td>
</tr>
<tr>
<td>Emergency Phone:</td>
<td>1-800-424-9300</td>
</tr>
<tr>
<td>International:</td>
<td>703-527-3887</td>
</tr>
</tbody>
</table>

II. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: DANGER!

Causes eye burns.
May cause allergic skin reaction.
Causes skin burns.
Toxic if swallowed. May cause target organ failure and/or death.
Vapor harmful.
May be harmful if absorbed through skin.

Routes of Entry:
- Inhalation
- Skin absorption
- Ingestion
- Eye contact
- Skin contact

Target Organs Potentially Affected by Exposure:
- Central nervous system
- Skin
- Respiratory Tract
- Kidneys
- Liver

Medical Conditions Aggravated by Exposure:
- Respiratory disorders, including but not limited to asthma and bronchitis.
- Skin allergies.
- Eye disorders.
- Skin disorders.
- Contains salicylic acid which may cause allergic reactions in aspirin-sensitive people.

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation: Causes nose and throat irritation. Causes lung irritation. Irritating to the nose, throat, and respiratory tract. Can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

Inhalation Toxicity: May cause allergic respiratory reaction. Inhalation of high concentrations may be corrosive with symptoms of coughing, burning, ulceration and pain.

Skin Contact: Corrosive to skin tissue. Can cause chemical burns. Sensitizer. Avoid exposure. If sensitized, repeated exposures will result in irritation, reddening, and rashes even for very low exposures.
May cause allergic skin reaction.

**Skin Absorption:** May be harmful if absorbed through skin. Contains a substance which may result in absorption of harmful amounts upon prolonged or widespread contact.

**Eye Contact:** Corrosive to eye tissue. Can cause severe irritation, tearing, and burns that can quickly lead to permanent injury including blindness. Can cause substantial irritation.

**Ingestion Irritation:** Severely irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

**Ingestion Toxicity:** Harmful if swallowed. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

**Long-Term (Chronic) Health Effects:**

**Inhalation:** Upon prolonged and/or repeated exposure, can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness. Overexposure may cause lung damage. Prolonged and continuous exposure to an excessive concentration has been shown to affect respiratory function. This effect may be severe. Overexposure may cause respiratory tract damage.

**Skin Contact:** Upon prolonged or repeated contact can cause severe irritation, defatting, and dermatitis. May cause lingering affects but not likely to result in permanent damage if the exposure is eliminated. Prolonged contact may cause an allergic skin reaction.

**Skin Absorption:** Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause severe irritation and systemic damage.

**Chronic Effects of Exposure:** Contains ingredients which can cause liver and kidney damage.

### III. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>%</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>10 - 30</td>
<td>100-51-6</td>
</tr>
<tr>
<td>3-amino methyl-3,5,5 Trimethyl Amine</td>
<td>10 - 30</td>
<td>2855-13-2</td>
</tr>
<tr>
<td>Polyoxypropylenediamine</td>
<td>7 - 13</td>
<td>9046-10-0</td>
</tr>
<tr>
<td>Epoxy Amine Adduct</td>
<td>7 - 13</td>
<td>Not Available</td>
</tr>
<tr>
<td>Oxirane based epoxy homopolymer</td>
<td>1 - 5</td>
<td>25085-99-8</td>
</tr>
<tr>
<td>2,4,6-Tri(dimethylaminomethyl)phenol</td>
<td>1 - 5</td>
<td>90-72-2</td>
</tr>
<tr>
<td>Hydroxybenzoic Acid</td>
<td>1 - 5</td>
<td>69-72-7</td>
</tr>
<tr>
<td>M-Aminoethylpiperazine</td>
<td>1 - 5</td>
<td>140-31-8</td>
</tr>
<tr>
<td>Diethylenetriamine</td>
<td>0.5 - 1.5</td>
<td>111-40-0</td>
</tr>
</tbody>
</table>

### IV. FIRST-AID MEASURES

**Inhalation:** Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

**Eyes:** Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. This corrosive material can cause immediate and permanent eye damage. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

**Skin Contact:** Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists. Thoroughly wash or discard clothing and shoes before reuse.

**Ingestion:** Corrosive. Do not induce vomiting! Drink one glass of water followed by milk if available. Seek medical attention immediately and give the medical care provider with this MSDS. Never give anything by mouth to an unconscious person.

### V. FIRE FIGHTING MEASURES

**Extinguishing Media:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
**Fire and/or Explosion Hazards:** Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire. Container may explode in heat of fire.

**Fire Fighting Methods and Protection:** Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide, Nitrogen containing gases, Ammonia, Aldehydes, Phenol, Ketones

**Flash Point (°F/°C):** 205 / 96

**Autoignition Temperature (°F/°C):** 716.0 / 380.0

**Lower Flammable/Explosive Limit, % in air:** 0.7

**Upper Flammable/Explosive Limit, % in air:** 5.0

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### VI. ACCIDENTAL RELEASE MEASURES

**Personal Precautions and Equipment:** Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.

**Methods for Clean-up:** Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Dike with suitable absorbent material. Gather and store in a sealed container pending disposal.

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### VII. HANDLING AND STORAGE

**Handling Technical Measures and Precautions:** Toxic or severely irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Wash thoroughly after handling. Do not get in eyes, on skin and clothing. “Empty” containers retain product residue (liquid and/or vapor) and can be dangerous. Remove contaminated clothing and wash before reuse.

**Storage Technical Measures and Conditions:** Store in a cool dry place. Keep container(s) closed.

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### VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:** Local exhaust ventilation or other engineering controls may be required when handling or using this product to avoid overexposure. Engineering controls must be designed to meet the OSHA chemical specific standard in 29 CFR 1910. Facilities storing or using this material should be equipped with an eyewash and safety shower.

**Respiratory Protection:** General or local exhaust ventilation is the preferred means of protection. In cases where ventilation is inadequate, respiratory protection may be required to avoid overexposure. Follow respirator manufacturer's directions for respirator use.

**Eye Protection:** Wear chemical splash goggles when handling this product. Additionally, wear a face shield when the possibility of splashing of liquid exists. Do not wear contact lenses. Have an eye wash station available.

**Skin Protection:** Avoid all skin contact by covering as much of the exposed skin area as possible with appropriate clothing to prevent skin contact. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Clothing suitable to prevent skin contact. Wear chemical resistant gloves.

**Control Parameters:**

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Revision Date: 12-01-2011
Product Code: 70715

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV-TWA (respirable)</th>
<th>ACGIH STEL</th>
<th>OSHA PEL-TWA (respirable); 15mg/m³ (total dust)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxybenzoic Acid</td>
<td>3mg/m³</td>
<td></td>
<td>5mg/m³</td>
</tr>
<tr>
<td>Diethylenetriamine</td>
<td>1ppm, 4.2mg/m³ TWA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IX. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Boiling Point - Low (°F)</td>
<td>392.0</td>
</tr>
<tr>
<td>Boiling Point - High (°F)</td>
<td>476.6</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&gt; 1 Ethyl Ether</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic, Ammonia Like</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>0.95</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>1.00</td>
</tr>
<tr>
<td>VOC (g/l) (Regulatory, Calculated)</td>
<td>0.00</td>
</tr>
<tr>
<td>(Actual, Calculated)</td>
<td>0.00</td>
</tr>
<tr>
<td>Viscosity</td>
<td>150 - 250 CPS</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Low; 10-39%</td>
</tr>
<tr>
<td>Octanol/Water Partition Coefficient</td>
<td>Not Available</td>
</tr>
<tr>
<td>Volatiles, % by Volume (Calculated)</td>
<td>0.00</td>
</tr>
<tr>
<td>Volatiles, % by weight (Calculated)</td>
<td>0.00</td>
</tr>
<tr>
<td>Density</td>
<td>8.32 - 8.52 lbs./Gal.</td>
</tr>
</tbody>
</table>

Physical and Chemical Properties are calculated target or range values for single packaged items and do not represent compliance values for multi-component (mixed) systems.

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.
Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition. Contamination. High humidity.
Polymerization: Will not occur.
Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide, Nitrogen containing gases, Ammonia, Aldehydes, Phenol, Ketones, Ammonia, Ethylenediamine, Amines

XI. TOXICOLOGICAL INFORMATION

Component Toxicity Data:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>Oral LD50 Rat 1230 - 3100 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal LD50 Rabbit 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhalation LC50 (8h) Rat 1000 ppm</td>
</tr>
<tr>
<td>3-amino methyl-3,5,5 Trimethyl Amine</td>
<td>2855-13-2</td>
<td>Oral LD50 Rat 1030 mg/kg</td>
</tr>
<tr>
<td>Polyoxypolypropylenediamine</td>
<td>9046-10-0</td>
<td>Dermal LD50 &gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Oxirane based epoxy homopolymer</td>
<td>25085-99-8</td>
<td>Oral LD50 Rat &gt; 5000 mg/kg</td>
</tr>
<tr>
<td>2,4,6-</td>
<td>90-72-2</td>
<td>Dermal LD50 Rabbit 4000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral LD50 &lt; 2000 mg/kg</td>
</tr>
</tbody>
</table>
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Tri(dimethylaminomethyl)phenol
Dermal LD50 <= 2000 mg/kg

Hydroxybenzoic Acid 69-72-7
Oral LD50 Rat 891 mg/kg
Oral LD50 Mouse 480 mg/kg
Oral LD50 Rabbit 1300 mg/kg
Dermal LD50 Rabbit > 10000 mg/kg
Dermal LD50 Rat > 2000 mg/kg
Inhalation LC50 (1h) Rat > 900 mg/m³

M-Aminoethylpiperazine 140-31-8
Oral LD50 Rat 2.15 g/kg
Dermal LD50 Rabbit 0.9 g/kg

Diethylenetriamine 111-40-0
Oral LD50 Rat 1080 - 2330 mg/kg
Dermal LD50 Rabbit 1000 mg/kg
Dermal LD50 Rat 672 - 1240 mg/kg

Carcinogens:
Chemical Name  CAS Number  IARC  NTP  OSHA
Not applicable  

XII. ECOLOGICAL INFORMATION
Toxicity data, if available, are listed below.
Overview: Components of this product are hazardous to wildlife and aquatic life.

XIII. DISPOSAL CONSIDERATIONS
Disposal Methods: Refer to other sections of this MSDS to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

XIV. TRANSPORTATION INFORMATION
This section provides basic shipping classification information and does not contain all regulatory transportation details. Refer to all applicable regulations for domestic, international, air, vessel and ground transportation requirements and restrictions.

DOT Basic Description: Paint Related Material
Hazard Class: 8
UN Number: UN3066
Packing Group: III
Other: This product qualifies for a limited quantity exception per CFR173.154(b)(2) for inner containers <= 1.3 gallon (5L) net capacity for liquids and packed in strong outer packagings.

XV. REGULATORY INFORMATION
United States Federal Regulations:
TSCA Status: All components of this product are either listed on the TSCA Inventory; or, are not subject to the inventory notification requirements.

SARA EHS Chemicals  CAS #  %
Epichlorohydrin 106-89-8 < 0.1 ppm

CERCLA
Not applicable

SARA 313
Material Safety Data Sheet

SARA 311/312
Health (Acute): Y
Health (chronic): Y
Fire (Flammable): N
Pressure: N
Reactivity: N

U. S. State Regulations:
California Prop 65 Chemicals
Cancer
Phenyl glycidyl ether 122-60-1 < 1 ppm
1-Chloro-2,3-epoxypropane 106-89-8 < 0.1 ppm
Reproductive
Not applicable

U. S. State Regulations:
California Prop 65 Chemicals
Cancer
Phenyl glycidyl ether 122-60-1 < 1 ppm
1-Chloro-2,3-epoxypropane 106-89-8 < 0.1 ppm
Reproductive
Not applicable

U. S. State Regulations:
California Prop 65 Chemicals
Cancer
Phenyl glycidyl ether 122-60-1 < 1 ppm
1-Chloro-2,3-epoxypropane 106-89-8 < 0.1 ppm
Reproductive
Not applicable

Canadian Regulations:
CEPA DSL: The components of this product ARE listed on the Canadian Domestic Substances List.
WHMIS Hazard Class: D2A E

XVI. ADDITIONAL INFORMATION
Prepared By: Regulatory Department
Disclaimer: This MSDS has been prepared in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canada's Controlled Product Regulations (CPR). To the best of our knowledge the information contained herein is accurate. Determination of safe handling, application and use of this material is the responsibility of the end user. This information is furnished without warranty, expressed or implied.
Print Date: December 01, 2011