1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE 3616
Product type: One-part epoxy
Restriction of Use: None identified
Company address: Henkel Electronic Materials LLC
14000 Jamboree Road
Irvine, CA 92606

IDH number: 244565
Item number: 29848
Region: United States
Contact information:
Telephone: 1.888.9.HENKEL (1.888.943.6535)
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkel.com/electronics

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS

<table>
<thead>
<tr>
<th>SKIN IRRITATION</th>
<th>HAZARD CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>EYE IRRITATION</td>
<td>2A</td>
</tr>
<tr>
<td>SKIN SENSITIZATION</td>
<td>1</td>
</tr>
</tbody>
</table>

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing and wash before reuse.

Storage: Not prescribed
Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.


See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>CAS Number</th>
<th>Percentage*</th>
</tr>
</thead>
</table>

IDH number: 244565

Product name: LOCTITE 3616

Page 1 of 6
4. FIRST AID MEASURES

**Inhalation:**
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention.

**Skin contact:**
Remove contaminated clothing and footwear. Immediately flush skin with plenty of water (using soap, if available). If symptoms develop and persist, get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye contact:**
Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

**Ingestion:**
DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If symptoms develop and persist, get medical attention.

**Symptoms:**
See Section 11.

5. FIRE FIGHTING MEASURES

**Extinguishing media:**
Water spray (fog), foam, dry chemical or carbon dioxide.

**Special firefighting procedures:**
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

**Unusual fire or explosion hazards:**
Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

**Hazardous combustion products:**

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**Environmental precautions:**
Do not allow product to enter sewer or waterways.

**Clean-up methods:**
Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.
7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed. Refer to Section 8.

Storage: Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epichlorohydrin-4,4'-isopropylidene diphenol resin</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Limestone</td>
<td>10 mg/m³ Total dust.</td>
<td>5 mg/m³ PEL Respirable fraction.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Amine adduct</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2,3-Epoxypropyl neodecanoate</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, crystal-free</td>
<td>10 mg/m³ TWA Inhalable dust. 3 mg/m³ TWA Respirable fraction.</td>
<td>20 MPPCF TWA 0.8 mg/m³ TWA</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Treated fumed silica</td>
<td>10 mg/m³ TWA Inhalable dust. 3 mg/m³ TWA Respirable fraction.</td>
<td>15 mg/m³ TWA Total dust. 5 mg/m³ TWA Respirable fraction.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Phenol polymer with formaldehyde, glycidyl ether</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering controls: Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Red
Odor: Mild
Odor threshold: Not available.
pH: Not determined
Vapor pressure: < 1.0 mm Hg (20 °C (68°F))
Boiling point/range: Not available.
Melting point/ range: Not determined
Specific gravity: Not available.
Vapor density: Not determined
Flash point: > 93 °C (> 199.4 °F) Tagliabue closed cup
Flammable/Explosive limits - lower: Not determined
10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Hazardous reactions: None under normal processing.


Reactivity: Not available.

Conditions to avoid: Store away from incompatible materials. Heat, flames, sparks and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation.
Skin contact: Causes skin irritation. May cause allergic skin reaction. Repeated or prolonged contact can result in drying of skin. Contact at elevated temperatures may cause thermal burns.
Eye contact: Causes serious eye irritation. Contact at elevated temperatures may cause thermal burns.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>LD50s and LC50s</th>
<th>Immediate and Delayed Health Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epichlorohydrin-4,4'-isopropylidene diphenol resin</td>
<td>None</td>
<td>Allergen, Irritant</td>
</tr>
<tr>
<td>Limestone</td>
<td>None</td>
<td>Nuisance dust</td>
</tr>
<tr>
<td>Amine adduct</td>
<td>None</td>
<td>No Records</td>
</tr>
<tr>
<td>2,3-Epoxypropyl neodecanoate</td>
<td>None</td>
<td>Irritant, Allergen</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, crystal-free</td>
<td>None</td>
<td>Nuisance dust</td>
</tr>
<tr>
<td>Treated fumed silica</td>
<td>None</td>
<td>Irritant</td>
</tr>
<tr>
<td>Phenol polymer with formaldehyde, glycidyl ether</td>
<td>None</td>
<td>Allergen, Irritant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Component(s)</th>
<th>NTP Carcinogen</th>
<th>IARC Carcinogen</th>
<th>OSHA Carcinogen (Specifically Regulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epichlorohydrin-4,4'-isopropylidene diphenol resin</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Limestone</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)
- Proper shipping name: Not regulated (Up to 300 ml max per inner/primary package when shipped as originally packaged only)
- Hazard class or division: None
- Identification number: None
- Packing group: None

International Air Transportation (ICAO/IATA)
- Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorhydrin resin) (Up to 300 ml max per inner/primary package when shipped as originally packaged only)
- Hazard class or division: 9
- Identification number: UN 3082
- Packing group: III

Water Transportation (IMO/IMDG)
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A Epichlorhydrin resin) (Up to 300 ml max per inner/primary package when shipped as originally packaged only)
- Hazard class or division: 9
- Identification number: UN 3082
- Packing group: III
- Marine pollutant: Bisphenol-A Epichlorhydrin resin

15. REGULATORY INFORMATION

United States Regulatory Information

- TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
- TSCA 12 (b) Export Notification: None above reporting de minimis
- CERCLA/SARA Section 302 EHS: None above reporting de minimis
- CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
- CERCLA/SARA Section 313: None above reporting de minimis
- California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Tricia Voghell, Regulatory Affairs Specialist

Issue date: 01/13/2014

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