1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite(R) 648 Retaining Compound Press Fit
IDH number: 237050
Product type: Anaerobic Adhesive
Item number: 21445
Restriction of Use: None identified
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Telephone: (860) 571-5100
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.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
DANGER: CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE DAMAGE.

<table>
<thead>
<tr>
<th>HAZARD CLASS</th>
<th>HAZARD CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKIN IRRITATION</td>
<td>2</td>
</tr>
<tr>
<td>SERIOUS EYE DAMAGE</td>
<td>1</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 remove. Continue rinsing. Immediately call a poison control center or physician. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing.

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
### Hazardous Component(s) | CAS Number | Percentage*
---|---|---
Polyurethane Methacrylate Resin | Proprietary | 30 - 60
Polyglycol dimethacrylate | Proprietary | 10 - 30
Acrylic acid | 79-10-7 | 5 - 10
Hydroxyalkyl methacrylate | 27813-02-1 | 5 - 10
Polyglycol dimethacrylate | Proprietary | 1 - 5
Cumene hydroperoxide | 80-15-9 | 1 - 5
1-Acetyl-2-phenylhydrazine | 114-83-0 | 0.1 - 1
Substituted Silane | Proprietary | 0.1 - 1
Cumene | 98-82-8 | 0.1 - 1
Methacrylic acid | 79-41-4 | 0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

### 4. FIRST AID MEASURES

**Inhalation:**
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Skin contact:**
Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.

**Eye contact:**
Rinse immediately with plenty of water, also under the eyelids, 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. 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:**
Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

**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:**
Remove all sources of ignition. Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. 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: For safe storage, store between 0 °C (32°F) and 32 °C (89.6 °F). Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

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>Polyurethane Methacrylate Resin</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Acrylic acid</td>
<td>2 ppm TWA (SKIN)</td>
<td>None</td>
<td>None</td>
<td>1 ppm TWA 3 ppm STEL (SKIN)</td>
</tr>
<tr>
<td>Hydroxyalkyl methacrylate</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>1 ppm TWA 3 ppm STEL (SKIN)</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Cumene hydroperoxide</td>
<td>None</td>
<td>None</td>
<td>1 ppm (6 mg/m3) TWA (SKIN)</td>
<td>None</td>
</tr>
<tr>
<td>1-Acetyl-2-phenylhydrazine</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Substituted Silane</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Cumene</td>
<td>50 ppm TWA</td>
<td>50 ppm (245 mg/m3) PEL (SKIN)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Methacrylic acid</td>
<td>20 ppm TWA</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below 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 chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact. Neoprene gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Green</td>
</tr>
<tr>
<td>Odor:</td>
<td>Sharp</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>&lt; 10 mm Hg (27 °C (80.6 °F))</td>
</tr>
<tr>
<td>Boiling point/range:</td>
<td>&gt; 149 °C (&gt; 300.2 °F)</td>
</tr>
<tr>
<td>Melting point/range:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific gravity:</td>
<td>1.1</td>
</tr>
<tr>
<td>Vapor density:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&gt; 93.3 °C (&gt; 199.94 °F) Tagliabue closed cup</td>
</tr>
<tr>
<td>Flammable/Explosive limits - lower:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammable/Explosive limits - upper:</td>
<td>Not available.</td>
</tr>
<tr>
<td>Autoignition temperature:</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: None under normal processing. Polymerization may occur at elevated temperature or in the presence of incompatible materials.


Incompatible materials: Strong oxidizing agents.

Reactivity: Not available.

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

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion
Potential Health Effects/Symptoms

**Inhalation:** Inhalation of vapors or mists of the product may be irritating to the respiratory system. May cause irritation to nose and throat.

**Skin contact:** Causes skin irritation. May cause allergic skin reaction.

**Eye contact:** Causes serious eye damage.

**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>Polyurethane Methacrylate Resin</td>
<td>None</td>
<td>Irritant, Allergen</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>None</td>
<td>Irritant, Allergen</td>
</tr>
</tbody>
</table>
| Acrylic acid | Oral LD50 (RAT) = 33.5 mg/kg  
Oral LD50 (RAT) = 2.5 g/kg  
Oral LD50 (RAT) = 193 mg/kg  
Oral LD50 (RAT) = 1,250 mg/kg  
Inhalation LC50 (RAT, 4 h) = 1,200 mg/l | Allergen, Corrosive, Irritant, Kidney, Liver |
| Hydroxyalkyl methacrylate | None | Irritant, Allergen |
| Polyglycol dimethacrylate | None | Allergen, Irritant |
| Cumene hydroperoxide | None | Allergen, Central nervous system, Corrosive, Irritant, Mutagen |
| 1-Acetyl-2-phenylhydrazine | None | Allergen, Blood, Kidney, Mutagen, Some evidence of carcinogenicity |
| Substituted Silane | None | Irritant, Allergen |
| Cumene | Oral LD50 (RAT) = 2.91 g/kg  
Oral LD50 (RAT) = 1,400 mg/kg  
Inhalation LC50 (RAT, 4 h) = 8000 ppm | Central nervous system, Irritant, Lung |
| Methacrylic acid | Oral LD50 (RABBIT) = 1,200 mg/kg  
Oral LD50 (RAT) = 1,060 mg/kg  
Oral LD50 (RAT) = 2,224 mg/kg  
Dermal LD50 (RABBIT) = 500 mg/kg  
Inhalation LC50 (RAT, 4 h) = 7.1 mg/l | Corrosive, Irritant, Allergen |

<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>Polyurethane Methacrylate Resin</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Acrylic acid</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Hydroxyalkyl methacrylate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Cumene hydroperoxide</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Polyglycol dimethacrylate</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Cumene</td>
<td>No</td>
<td>Group 2B</td>
<td>No</td>
</tr>
<tr>
<td>Substituted Silane</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Methacrylic acid</td>
<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: RQ, Environmentally hazardous substances, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
DOT Hazardous Substance(s): alpha,alpha-Dimethylbenzylhydroperoxide

International Air Transportation (ICAO/IATA)
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
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.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

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: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Acrylic acid (CAS# 79-10-7), Cumene hydroperoxide (CAS# 80-15-9).
CERCLA Reportable quantity: Cumene hydroperoxide (CAS# 80-15-9) 10 lbs. (4.54 kg)
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: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

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

Prepared by: Sheila Gines, Regulatory Affairs Specialist
Issue date: 09/15/2014
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