**Revision Number:** 006.2

**Issue date:** 02/05/2010

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Loctite(R) 3321 Light Cure Medical Device Adhesive
**Product type:** Ultraviolet adhesive

**IDH number:** 135299
**Item number:** 19739
**Region:** United States

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

**Contact information:**
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.henkelna.com

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

**HMIS:**

| | | | |
|---|---|---|---|
| **Physical state:** | Liquid | **HEALTH:** | *2 |
| **Color:** | Transparent, Slightly Hazy | **FLAMMABILITY:** | 2 |
| **Odor:** | Mild | **PHYSICAL HAZARD:** | 1 |
| | | **Personal Protection:** | See MSDS Section 8 |

WARNING: COMBUSTIBLE LIQUID AND VAPOR.
HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN OR INHALED.
DO NOT SPRAY. DO NOT HEAT.
MAY CAUSE ALLERGIC SKIN REACTION.
CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

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

**Potential Health Effects**

**Inhalation:** Modified acrylamide is harmful if inhaled. Causes respiratory tract irritation. Vapors and mists will irritate nose and throat and possibly eyes. Headache. Nausea. DO NOT heat or spray as this increases the inhalation hazard.

**Skin contact:** Modified acrylamide may be absorbed through skin in harmful amounts. Toxic. May cause allergic skin reaction. Causes skin irritation.

**Eye contact:** Contact with eyes will cause irritation.

**Ingestion:** Modified acrylamide is harmful if swallowed. Toxic.

**Existing conditions aggravated by exposure:** Eye, skin, and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**See Section 11 for additional toxicological information.**

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous components | CAS NUMBER | % |
|---|---|---|
| Urethane Polymer | Proprietary | 30 - 60 |
| Acrylate monomer | Proprietary | 30 - 60 |
| Modified acrylamide | 2680-03-7 | 10 - 30 |
| Photoinitiator | 24650-42-8 | 1 - 5 |
| Substituted silane | Proprietary | 1 - 5 |
| Silica, amorphous, fumed, crystal-free | 112945-52-5 | 1 - 5 |
| Photoinitiator | Proprietary | 1 - 5 |
| 2-Hydroxyethyl acrylate | 818-61-1 | 0.1 - 1 |

## 4. FIRST AID MEASURES

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

**Skin contact:** Immediately wash skin thoroughly with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.

**Eye contact:** Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Keep individual calm. Get medical attention.

## 5. FIRE FIGHTING MEASURES

**Flash point:** 77.8 °C (172.04 °F) Pensky Martens closed cup

**Autoignition temperature:** Not available

**Flammable/Explosive limits - lower:** Not available

**Flammable/Explosive limits - upper:** Not available

**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. Water may be unsuitable as an extinguishing media, but may be helpful in keeping adjacent containers cool.

**Unusual fire or explosion hazards:** Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers.

**Hazardous combustion products:** Oxides of carbon. Oxides of nitrogen. Oxides of silicon. Irritating organic vapours. Toxic fumes. Isocyanates. Hydrogen cyanide. Amines. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

## 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:** Remove all sources of ignition. 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. Do not taste or swallow. DO NOT heat or spray. Use only in area provided with appropriate exhaust ventilation. Refer to Section 8.

**Storage:** For safe storage, store at or below 26 °C (78.8 °F)
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 contact Henkel Customer Service at (800) 243-4874.**

## 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.**

| Hazardous components | ACGIH TLV | OSHA PEL | AIHA WEEL | OTHER |
|---|---|---|---|---|
| Urethane Polymer | None | None | None | None |
| Acrylate monomer | None | None | None | None |
| Modified acrylamide | None | None | None | 0.1 mg/m3 TWA (Skin)<br>0.025 ppm TWA (Skin) |
| Photoinitiator | None | None | None | None |
| Substituted silane | None | None | None | None |
| Silica, amorphous, fumed, crystal-free | 10 mg/m3 TWA Inhalable dust.<br>3 mg/m3 TWA Respirable fraction. | 20 MPPCF TWA<br>0.8 mg/m3 TWA | None | None |
| Photoinitiator | None | None | None | None |
| 2-Hydroxyethyl acrylate | None | None | None | None |

**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). If this material is handled at elevated temperatures or under mist forming conditions, without engineering controls, a NIOSH approved respirator must be used.

**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.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Color:** Transparent, Slightly Hazy
**Odor:** Mild
**Odor threshold:** Not available
**pH:** Not applicable
**Vapor pressure:** < 5 mm hg (20 °C (68°F))
**Boiling point/range:** > 200 °F (> 93.3 °C)
**Melting point/ range:** Not available

| | |
|---|---|
| **Specific gravity:** | 1.078 |
| **Vapor density:** | > 1 |
| **Flash point:** | 77.8 °C (172.04 °F) Pensky Martens closed cup |
| **Flammable/Explosive limits - lower:** | Not available |
| **Flammable/Explosive limits - upper:** | Not available |
| **Autoignition temperature:** | Not available |
| **Evaporation rate:** | Not available |
| **Solubility in water:** | Slight |
| **Partition coefficient (n-octanol/water):** | Not available |
| **VOC content:** | 2.16 %; 23.28 g/l (process)<br>1.05 %; 11.32 g/l (potential)<br>3.21 %; 34.60 g/l (total)<br>(ASTM D5403) |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of storage and use.

**Hazardous reactions:** May occur.

**Hazardous decomposition products:** Oxides of carbon. Oxides of nitrogen. Oxides of silicon. Irritating organic vapours. Isocyanates. Hydrogen cyanide. Amines.

**Incompatible materials:** Strong oxidizing agents. Strong acids. Strong bases. Amines. Alkalis. Peroxides. Free radical initiators.

**Conditions to avoid:** Keep away from heat, spark and flame. Avoid temperatures above 26°C (80°F). Store away from incompatible materials. Direct sunlight. Ultraviolet radiation. Freezing conditions.

## 11. TOXICOLOGICAL INFORMATION

**Acute oral product toxicity:** Modified acrylamide LD50 (rat) 316 mg/kg

**Acute dermal product toxicity:** Modified acrylamide LD50 (rabbit) 518 mg/kg

**Acute inhalation product toxicity:** Modified acrylamide LC50 (rat) 1 h > 776 ppm (vapor)

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|---|---|---|
| Urethane Polymer | No | No | No |
| Acrylate monomer | No | No | No |
| Modified acrylamide | No | No | No |
| Photoinitiator | No | No | No |
| Substituted silane | No | No | No |
| Silica, amorphous, fumed, crystal-free | No | No | No |
| Photoinitiator | No | No | No |
| 2-Hydroxyethyl acrylate | No | No | No |

| Hazardous components | Health Effects/Target Organs |
|---|---|
| Urethane Polymer | No Records |
| Acrylate monomer | Irritant, Allergen |
| Modified acrylamide | Irritant, Eyes, Mutagen, Kidney, Less weight gain and food intake. |
| Photoinitiator | No Target Organs |
| Substituted silane | Irritant, Allergen |
| Silica, amorphous, fumed, crystal-free | Nuisance dust |
| Photoinitiator | No Records |
| 2-Hydroxyethyl acrylate | Allergen, Central nervous system, Heart, Irritant, Kidney, Liver, Lung, Some evidence of carcinogenicity, Spleen |

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available

## 13. DISPOSAL CONSIDERATIONS

**Information provided is for unused product only.**

**Recommended method of disposal:** Dispose of according to Federal, State and local governmental regulations.

**Hazardous waste number:** Not a RCRA hazardous waste.

## 14. TRANSPORT INFORMATION

The shipping classification in this section are for bulk packaging only. Shipping classification may be different for non-bulk packaging as exceptions may apply. Refer to shipping documents for package specific transportation classification.

**U.S. Department of Transportation Ground (49 CFR)**

| | |
|---|---|
| **Proper shipping name:** | Combustible liquid, n.o.s. (Modified Acrylamide) |
| **Hazard class or division:** | Combustible Liquid |
| **Identification number:** | NA 1993 |
| **Packing group:** | III |

**International Air Transportation (ICAO/IATA)**

| | |
|---|---|
| **Proper shipping name:** | Environmentally hazardous substance, liquid, n.o.s. (2,2-Dimethoxy-1,2-diphenylethan-1-one, Isobornyl acrylate) |
| **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. (2,2-Dimethoxy-1,2-diphenylethan-1-one, Isobornyl acrylate) |
| **Hazard class or division:** | 9 |
| **Identification number:** | UN 3082 |
| **Packing group:** | III |
| **Marine pollutant:** | 2,2-Dimethoxy-1,2-diphenylethan-1-one, Isobornyl acrylate |

## 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 minimus |
| **CERCLA/SARA Section 302 EHS:** | None above reporting de minimus |
| **CERCLA/SARA Section 311/312:** | Immediate Health, Delayed Health, Fire |
| **CERCLA/SARA 313:** | None above reporting de minimus |
| **California Proposition 65:** | No California Proposition 65 listed chemicals are known to be present. |

**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. |
| **WHMIS hazard class:** | B.3, D.1.B, D.2.B |

## 16. OTHER INFORMATION

**This material safety data sheet contains changes from the previous version in sections:** 1,5,8,10,12,14

**Prepared by:** Tricia Voghell, Regulatory Affairs Specialist

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