



Revision Number: 009.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE AA 3971 LIGHT CURE MED. DEV. ADH. known as 3971 Light Cure Medical Device
IDH number: 444350
Product type: Ultraviolet adhesive
Item number: 36792
Restriction of Use: None identified
Region: United States
Company address: Henkel Corporation
 Telephone: +1 (860) 571-5100
 One Henkel Way
 MEDICAL EMERGENCY Phone: Poison Control Center
 Rocky Hill, Connecticut 06067
 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: DO NOT SPRAY. DO NOT HEAT.
 COMBUSTIBLE LIQUID.
 HARMFUL IF SWALLOWED OR IN CONTACT WITH SKIN.
 CAUSES SKIN IRRITATION.
 MAY CAUSE AN ALLERGIC SKIN REACTION.
 CAUSES SERIOUS EYE DAMAGE.
 SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	4
ACUTE TOXICITY ORAL	4
ACUTE TOXICITY DERMAL	4
SKIN IRRITATION	2
SERIOUS EYE DAMAGE	1
SKIN SENSITIZATION	1
REPRODUCTIVE TOXICITY	2

PICTOGRAM(S)



Precautionary Statements

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, hot surfaces - no smoking. Avoid breathing vapors, mist, or spray. Wash affected area thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, clothing, eye and face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal:

Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Urethane acrylate oligomer~		10 - 30
N,N-Dimethylacrylamide	2680-03-7	10 - 30
Isobornyl acrylate	5888-33-5	10 - 30
Acrylate ester	2399-48-6	5 - 10
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and a,a',a"-1,2,3-propanetriyltris[	73324-00-2	5 - 10
Acrylic acid oligomers~		1 - 5
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	75980-60-8	1 - 5
2-Propenoic acid, 2-carboxyethyl ester	24615-84-7	1 - 5
Acrylate ester	7328-17-8	1 - 5
Gamma-glycidoxypropyl trimethoxysilane	2530-83-8	1 - 5
Acrylic acid	79-10-7	1 - 5
Diacylate ester	42978-66-5	1 - 5
2-Hydroxyethyl acrylate	818-61-1	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

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. Get medical attention.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

Ingestion:

Do not induce vomiting. Never give anything by mouth to an unconscious person. Get immediate 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.
Unusual fire or explosion hazards:	Uncontrolled polymerization may occur at high temperatures resulting in explosions or rupture of storage containers. In case of fire, keep containers cool with water spray.
Hazardous combustion products:	Oxides of carbon, oxides of nitrogen, irritating organic vapors. Oxides of silicon. Formaldehyde.

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. 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.

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 Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Urethane acrylate oligomer~	None	None	None	None
N,N-Dimethylacrylamide	None	None	None	0.1 mg/m ³ TWA (Skin) 0.025 ppm TWA (Skin)
Isobornyl acrylate	None	None	None	None
Acrylate ester	None	None	None	None
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and a,a',a"-1,2,3-propanetriyltris[	None	None	None	None
Acrylic acid oligomers~	None	None	None	None
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	None	None	None	None
2-Propenoic acid, 2-carboxyethyl ester	None	None	None	None
Acrylate ester	None	None	None	None
Gamma-glycidoxypropyl trimethoxysilane	None	None	None	None
Acrylic acid	2 ppm TWA (SKIN)	None	None	1 ppm TWA 3 ppm STEL (SKIN)
Diacrylate ester	None	None	None	None
2-Hydroxyethyl acrylate	None	None	None	None

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). 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. 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

Physical state:	Liquid
Color:	Transparent, Light yellow
Odor:	Mild
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	< 5 mm hg (20 °C (68°F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available.
Specific gravity:	1.0994
Vapor density:	> 1
Flash point:	73.9 °C (165.02 °F) Pinsky Martens closed cup
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Slight

Partition coefficient (n-octanol/water):	Not available.
VOC content:	0.40 %; 4.40 g/l (process) 0.32 %; 3.52 g/l (potential) 0.72 %; 7.92 g/l (total) (ASTM D5403)
Viscosity:	Not available.
Decomposition temperature:	Not available.

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.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Oxides of silicon. Formaldehyde. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Strong reducing agents. Strong bases. copper Amines. Acids. Alkalis. Peroxides. Free radical initiators. Other polymerization initiators.
Reactivity:	Not available.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition. Avoid temperatures above 26°C (80°F). Store away from incompatible materials.

11. TOXICOLOGICAL INFORMATION

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

Inhalation: Modified acrylamide is harmful if inhaled. Vapors may cause headaches, nausea, dizziness and respiratory tract irritation. Vapors and mists will irritate nose and throat and possibly eyes. DO NOT heat or spray as this increases the inhalation hazard.

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

Eye contact: Causes serious eye damage.

Ingestion: Modified acrylamide is harmful if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Urethane acrylate oligomer~	None	Irritant, Allergen
N,N-Dimethylacrylamide	None	Irritant, Eyes, Mutagen, Kidney, Less weight gain and food intake.
Isobornyl acrylate	None	Irritant, Allergen
Acrylate ester	None	Allergen, Irritant
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and a,a',a"-1,2,3-propanetriyltris[	None	No Data
Acrylic acid oligomers~	None	Irritant, Allergen
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	None	No Records
2-Propenoic acid, 2-carboxyethyl ester	None	Irritant
Acrylate ester	None	Irritant, Allergen
Gamma-glycidoxypropyl trimethoxysilane	None	Allergen, Irritant
Acrylic acid	Oral LD50 (Rat) = 33.5 mg/kg Oral LD50 (Mouse) = 2,400 mg/kg Oral LD50 (Rat) = 2.5 g/kg Oral LD50 (Rat) = 193 mg/kg Oral LD50 (Rat) = 1,250 mg/kg	Allergen, Corrosive, Irritant, Kidney, Liver
Diacylate ester	None	Irritant, Allergen, Eyes
2-Hydroxyethyl acrylate	Dermal LD50 (Rabbit) = 1,010 mg/kg	Allergen, Central nervous system, Heart, Irritant, Kidney, Liver, Lung, Some evidence of carcinogenicity, Spleen

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Urethane acrylate oligomer~	No	No	No
N,N-Dimethylacrylamide	No	No	No
Isobornyl acrylate	No	No	No
Acrylate ester	No	No	No
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1'-methylenebis[4-isocyanatocyclohexane] and a,a',a"-1,2,3-propanetriyltris[	No	No	No
Acrylic acid oligomers~	No	No	No
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	No	No	No
2-Propenoic acid, 2-carboxyethyl ester	No	No	No
Acrylate ester	No	No	No
Gamma-glycidoxypropyl trimethoxysilane	No	No	No
Acrylic acid	No	No	No
Diacylate ester	No	No	No
2-Hydroxyethyl acrylate	No	No	No

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 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: Combustible liquid, n.o.s. (Modified Acrylamide, Acrylic acid)
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. (Isobornyl acrylate, 2-Carboxyethyl 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. (Isobornyl acrylate, 2-Carboxyethyl acrylate)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Isobornyl acrylate, 2-Carboxyethyl 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 minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Fire

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). Acrylate ester (CAS# 7328-17-8). Acrylic acid (CAS# 79-10-7).

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: 2,3

Prepared by: Product Safety and Regulatory Affairs

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