

# Safety Data Sheet



Revision Number: 003.0

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** LOCTITE EDAG 451SS 1KG E&C  
**Product type/use:** UV curable dielectric ink  
**Restriction of Use:** None identified  
**Company address:** Henkel Corporation  
One Henkel Way  
Rocky Hill, Connecticut 06067

**IDH number:** 2994940  
**Region:** United States  
**Contact information:**  
Telephone: +1 (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

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

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1

### PICTOGRAM(S)



### Precautionary Statements

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

**Response:** IF ON SKIN: Wash with plenty of 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.

**Storage:** Not prescribed

**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~		30 - 60
Isobornyl acrylate	5888-33-5	30 - 60
hexamethylene diacrylate	13048-33-4	5 - 10
Silica, amorphous, fumed, cryst.-free	112945-52-5	1 - 5
Benzophenone	119-61-9	0.1 - 1
Acrylic acid	79-10-7	0.1 - 1

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

## 4. FIRST AID MEASURES

<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.
<b>Skin contact:</b>	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.
<b>Eye contact:</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Ingestion:</b>	DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, prevent aspiration by keeping the patient's head below the knees. Get medical attention.
<b>Symptoms:</b>	See Section 11.

## 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
<b>Unusual fire or explosion hazards:</b>	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
<b>Hazardous combustion products:</b>	Oxides of carbon. Oxides of nitrogen. Toxic and irritating vapors.

## 6. ACCIDENTAL RELEASE MEASURES

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

<b>Environmental precautions:</b>	Do not allow product to enter sewer or waterways.
<b>Clean-up methods:</b>	Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up spilled material and place in a closed container for disposal.

## 7. HANDLING AND STORAGE

<b>Handling:</b>	Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe the vapor and mist. Wash thoroughly after handling. Keep container closed.
<b>Storage:</b>	For safe storage, store between -20 °C (-4°F) and 50 °C (122°F) Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Keep away from heat, spark and flame. Protect from direct sunlight. Maintain head space in storage containers to support oxygen requirements of the inhibitor(s).

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.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Urethane acrylate~	None	None	None	None
Isobornyl acrylate	None	None	None	None
hexamethylene diacrylate	None	None	0.11 ppm (1 mg/m <sup>3</sup> ) TWA (Skin sensitizer.)	None
Silica, amorphous, fumed, cryst.-free	3 mg/m <sup>3</sup> TWA Respirable particles. 10 mg/m <sup>3</sup> TWA Inhalable particles.	20 MPPCF TWA 0.8 mg/m <sup>3</sup> TWA 50 MPPCF TWA Total dust. 5 mg/m <sup>3</sup> TWA Respirable fraction. 15 mg/m <sup>3</sup> TWA Total dust. 15 MPPCF TWA Respirable fraction.	None	None
Benzophenone	None	None	0.5 mg/m <sup>3</sup> TWA	None
Acrylic acid	2 ppm TWA (SKIN)	None	None	1 ppm TWA 3 ppm STEL (SKIN)

<b>Engineering controls:</b>	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
<b>Respiratory protection:</b>	Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.
<b>Eye/face protection:</b>	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.
<b>Skin protection:</b>	Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Paste
<b>Color:</b>	Green
<b>Odor:</b>	Mild
<b>Odor threshold:</b>	Not available.
<b>pH:</b>	Not applicable, Product is non-soluble (in water).
<b>Vapor pressure:</b>	< 0.1 hPa (20 °C (68°F))
<b>Boiling point/range:</b>	> 100 °C (> 212°F)
<b>Melting point/ range:</b>	23 °C (73.4 °F)
<b>Specific gravity:</b>	1.0790
<b>Vapor density:</b>	> 1 20 °C
<b>Flash point:</b>	> 93 °C (> 199.4 °F)
<b>Flammable/Explosive limits - lower:</b>	Not available.
<b>Flammable/Explosive limits - upper:</b>	Not available.
<b>Autoignition temperature:</b>	Not available.
<b>Flammability:</b>	The product is not flammable.
<b>Evaporation rate:</b>	Not available.
<b>Solubility in water:</b>	Insoluble
<b>Partition coefficient (n-octanol/water):</b>	Not available.
<b>VOC content:</b>	0.00 %
<b>Viscosity:</b>	12,000 mPa.s
<b>Decomposition temperature:</b>	Not available.

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal conditions of storage and use.
<b>Hazardous reactions:</b>	None under normal processing.
<b>Hazardous decomposition products:</b>	Oxides of carbon. Oxides of nitrogen. Toxic fumes. Irritating vapors.
<b>Incompatible materials:</b>	Strong oxidizing agents. Strong acids and strong bases.
<b>Reactivity:</b>	Not available.
<b>Conditions to avoid:</b>	Keep away from heat, ignition sources and incompatible materials. Protect from direct sunlight. Loss of polymerization inhibitor. Loss of dissolved air.

## 11. TOXICOLOGICAL INFORMATION

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

### Potential Health Effects/Symptoms

<b>Inhalation:</b>	May cause respiratory tract irritation. Coughing. Shortness of breath.
<b>Skin contact:</b>	Causes skin irritation. May cause allergic skin reaction.
<b>Eye contact:</b>	Causes serious eye irritation. Redness. Tearing.
<b>Ingestion:</b>	May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Urethane acrylate~	None	No Data
Isobornyl acrylate	None	Irritant, Allergen
hexamethylene diacrylate	Oral LD50 (Rat) = 5 g/kg Dermal LD50 (Rabbit) = 3,600 mg/kg	Irritant, Allergen
Silica, amorphous, fumed, cryst.-free	None	No Data
Benzophenone	Oral LD50 (Mouse) = 2,895 mg/kg	Blood, Kidney, Irritant, Some evidence of carcinogenicity
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 Inhalation LC50 (Rat, 4 h) = 3.6 mg/l Inhalation LC50 (Rat, 4 h) = > 3.9 - < 4.8 mg/l Inhalation LC50 (Rat, 4 h) = > 5.1 mg/l	Allergen, Corrosive, Irritant, Kidney, Liver

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Urethane acrylate~	No	No	No
Isobornyl acrylate	No	No	No
hexamethylene diacrylate	No	No	No
Silica, amorphous, fumed, cryst.-free	No	No	No
Benzophenone	No	Group 2B	No
Acrylic acid	No	No	No

## 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.

## 14. TRANSPORT INFORMATION

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

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

<b>Proper shipping name:</b>	Not regulated
<b>Hazard class or division:</b>	None
<b>Identification number:</b>	None
<b>Packing group:</b>	None

### International Air Transportation (ICAO/IATA)

<b>Proper shipping name:</b>	Environmentally hazardous substance, liquid, n.o.s. (Isobornyl acrylate)
<b>Hazard class or division:</b>	9
<b>Identification number:</b>	UN 3082
<b>Packing group:</b>	III

### Water Transportation (IMO/IMDG)

<b>Proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate)
<b>Hazard class or division:</b>	9
<b>Identification number:</b>	UN 3082
<b>Packing group:</b>	III
<b>Marine pollutant:</b>	Isobornyl acrylate

## 15. REGULATORY INFORMATION

### United States Regulatory Information

<b>TSCA 8 (b) Inventory Status:</b>	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.
<b>TSCA 12 (b) Export Notification:</b>	Benzophenone (CAS# 119-61-9).
<b>CERCLA/SARA Section 302 EHS:</b>	None above reporting de minimis.
<b>CERCLA/SARA Section 311/312:</b>	Immediate Health
<b>CERCLA/SARA Section 313:</b>	None above reporting de minimis.
<b>California Proposition 65:</b>	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

<b>CEPA DSL/NDSL Status:</b>	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.
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## 16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 3,7,8,9,13,15

**Prepared by:** Product Safety and Regulatory Affairs

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