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1. IDENTIFICATION

Product name:	LOCTITE EDAG 452SS	IDH number:	2640336
Product type/	UV curable dielectric ink		
Recommended use:		Region:	United States
Restriction of Use:	None identified	Contact information:	
Company address:		Telephone: +1 (860) 571-5100	
Henkel Corporation		MEDICAL EMERGENCY Phone: Poison Control Center	
One Henkel Way		1-877-671-4608 (toll free) or 1-303-592-1711	
Rocky Hill, Connecticut 06067		TRANSPORT EMERGENCY Phone: CHEMTREC	
		1-800-424-9300 (toll free) or 1-703-527-3887	
		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:	H315 - CAUSES SKIN IRRITATION. H317 - MAY CAUSE AN ALLERGIC SKIN REACTION. H319 - CAUSES SERIOUS EYE IRRITATION. H335 - MAY CAUSE RESPIRATORY IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3



Precautionary Statements

Prevention:	P261 - Avoid breathing mist/vapours. P264 - Wash affected area thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace.
Response:	P280 - Wear protective gloves, eye protection, and face protection. P302+P352 - IF ON SKIN: Wash with plenty of water. P304+P340+P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 - If skin irritation or rash occurs: Get medical attention. P337+P313 - If eye irritation persists: Get medical attention.
Storage:	P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up.
Disposal:	P501 - Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Other hazards Not available.

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	Weight %*
2-[(3a,4,5,6,7,7a-Hexahydro-4,7-methano-1H-inden-6-yl)oxy]ethyl acrylate	65983-31-5	30 - 60
Acrylated urethane oligomer~		10 - 30
Talc	14807-96-6	10 - 30
hexamethylene diacrylate	13048-33-4	1 - 5
2,2-Diethoxyacetophenone	6175-45-7	1 - 5
Polyethylene wax	9002-88-4	1 - 5
Urethane acrylate~		0.1 - 1
Benzophenone	119-61-9	0.1 - 1
Isobornyl acrylate	5888-33-5	0.1 - 1
Diacrylate ester	42978-66-5	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

First Aid Measures by likely routes of exposure

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. 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. Get medical attention.
Most important symptoms and effects (acute and delayed):	The most important known symptoms and effects, both acute and delayed, are described in Section 11: Toxicological Information.
Indication of any immediate medical attention / special treatment needed:	Not available.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Improper extinguishing agents:	Not available.
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:

Oxides of carbon. Toxic fumes. 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.

Environmental precautions:

Do not allow product to enter sewer or waterways.

Clean-up methods:

Ensure adequate ventilation. Wear appropriate personal protective equipment. 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

Handling:

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

Storage:

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
Talc	2 mg/m3 TWA Respirable fraction.	0.1 mg/m3 TWA Respirable 20 MPPCF TWA 2.4 MPPCF TWA Respirable	None	50 ppm
hexamethylene diacrylate	None	None	0.11 ppm (1 mg/m3) TWA (Skin sensitizer.)	None
Polyethylene wax	10 mg/m3 TWA Inhalable particles. 3 mg/m3 TWA Respirable particles.	15 MPPCF TWA Respirable fraction. 15 mg/m3 TWA Total dust. 50 MPPCF TWA Total dust. 5 mg/m3 TWA Respirable fraction. 5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Benzophenone	None	None	0.5 mg/m3 TWA	None

Engineering controls:

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection:

Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Green
Odor:	None
Odor threshold:	Not available.
pH:	Not applicable, Product is non-soluble (in water).
Vapor pressure:	< 1 hPa (20 °C (68°F))
Boiling point/range:	240 °C (464°F)
Melting point/ range:	Not applicable, Product is a liquid
Density/Relative density:	1.282
Relative vapor density:	> 1 20 °C
Flash point:	> 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	The product is not flammable.
Evaporation rate:	Not available.
Solubility:	Insoluble Water
Partition coefficient n-octanol/water (logarithmic value):	Not available.
VOC content:	576 g/l
Dynamic viscosity:	12,000 cp
Dynamic viscosity:	9,000 - 17,000 cp
Kinematic viscosity:	> 1,000 mm ² /s
Particle characteristics:	Not applicable, Product is a liquid
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	May occur with excessive aging, excessive heat, polymerization catalyst, inhibitor depletion, direct sunlight and under oxygen-free atmospheres.
Hazardous decomposition products:	Oxides of carbon. Toxic fumes. Irritating vapors.
Incompatible materials:	Oxidizing agents. Reducing agents. Acids and bases. Amines. Peroxides. Oxygen scavengers. Inert gases. Reactive metals.
Reactivity:	Not available.
Conditions to avoid:	Keep away from heat, ignition sources and incompatible materials. Protect from direct sunlight. Loss of polymerization inhibitor. Loss of dissolved air.

11. TOXICOLOGICAL INFORMATION

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

Inhalation:	May cause respiratory tract irritation.
Skin contact:	Causes skin irritation. May cause allergic skin reaction.
Eye contact:	Causes serious eye irritation.
Ingestion:	May cause gastrointestinal tract irritation if swallowed. Not expected under normal conditions of use.

Hazardous Component(s)	LD50s and LC50s
2-[(3a,4,5,6,7,7a-Hexahydro-4,7-methano-1H-inden-6-yl)oxy]ethyl acrylate	None
Acrylated urethane oligomer~	None
Talc	None
hexamethylene diacrylate	Oral LD50 (Rat) = 5 g/kg Dermal LD50 (Rabbit) = 3,600 mg/kg
2,2-Diethoxyacetophenone	None
Polyethylene wax	None
Urethane acrylate~	None
Benzophenone	Oral LD50 (Mouse) = 2,895 mg/kg
Isobornyl acrylate	None
Diacrylate ester	None

Hazardous Component(s)	Immediate Health Effects	Delayed Health Effects	Chronic Health Effects
2-[(3a,4,5,6,7,7a-Hexahydro-4,7-methano-1H-inden-6-yl)oxy]ethyl acrylate	Irritant	Allergen	
Acrylated urethane oligomer~			
Talc	Irritant		Lung Some evidence of carcinogenicity
hexamethylene diacrylate	Irritant	Allergen	
2,2-Diethoxyacetophenone	Irritant		
Polyethylene wax			
Urethane acrylate~			
Benzophenone	Irritant		Blood Kidney Some evidence of carcinogenicity
Isobornyl acrylate	Irritant	Allergen	
Diacrylate ester	Irritant	Allergen	Eyes

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
2-[(3a,4,5,6,7,7a-Hexahydro-4,7-methano-1H-inden-6-yl)oxy]ethyl acrylate	No	No	No
Acrylated urethane oligomer~	No	No	No
Talc	No	Group 2A	No
hexamethylene diacrylate	No	No	No
2,2-Diethoxyacetophenone	No	No	No
Polyethylene wax	No	No	No
Urethane acrylate~	No	No	No
Benzophenone	No	Group 2B	No
Isobornyl acrylate	No	No	No
Diacrylate ester	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)

Proper shipping name:	Not regulated
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. (Dicyclopentyloxyethyl 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. (Dicyclopentyloxyethyl acrylate)
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
Marine pollutant:	Dicyclopentyloxyethyl acrylate

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) 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:	Please refer to the GHS classification in Section 2
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:	One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.
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16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 9,10,11,15

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