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**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name:</b>	<b>LOCTITE 480</b>	<b>IDH number:</b>	1923797
<b>Product type:</b>	Cyanoacrylate	<b>Item number:</b>	SOP
<b>Restriction of Use:</b>	None identified	<b>Region:</b>	United States
<b>Company address:</b>		<b>Contact information:</b>	
Henkel AG & Co. KGaA		Telephone: +49 (211) 797 0	
Henkelstr. 67			
Düsseldorf 40589			

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**DANGER:** BONDS SKIN IN SECONDS.  
 COMBUSTIBLE LIQUID.  
 CAUSES EYE IRRITATION.  
 MAY CAUSE RESPIRATORY IRRITATION.  
 MAY CAUSE GENETIC DEFECTS.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	4
EYE IRRITATION	2B
GERM CELL MUTAGENICITY	1B
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3

**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. Use only outdoors or in a well-ventilated area. Wear protective gloves, clothing, eye and face protection.

**Response:** 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. 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 eye irritation persists: Get medical attention. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. 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*
Ethyl 2-cyanoacrylate	7085-85-0	80 - 90
Carbon black	1333-86-4	1 - 5
Phthalic anhydride	85-44-9	0.1 - 1
Hydroquinone	123-31-9	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

<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>	Do not pull bonded skin apart. Soak in warm soapy water. Gently peel apart using a blunt instrument. If skin is burned due to the rapid generation of heat by a large drop, seek medical attention. If lips are bonded, apply warm water to the lips and encourage wetting and pressure from saliva in mouth. Peel or roll lips apart. Do not pull lips apart with direct opposing force.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. Get medical attention. If eyelids are bonded closed, release eyelashes with warm water by covering with a wet pad. Do not force eye open. Cyanoacrylate will bond to eye protein and will cause a lachrymatory effect which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Medical attention should be sought in case solid particles of polymerized cyanoacrylate trapped behind the eyelid caused abrasive damage.
<b>Ingestion:</b>	Ensure breathing passages are not obstructed. The product will polymerize rapidly and bond to the mouth making it almost impossible to swallow. Saliva will separate any solidified product in several hours. Prevent the patient from swallowing any separated mass.
<b>Symptoms:</b>	See Section 11.
<b>Notes to physician:</b>	Surgery is not necessary to separate accidentally bonded tissues. Experience has shown that bonded tissues are best treated by passive, non-surgical first aid. If rapid curing has caused thermal burns they should be treated symptomatically after adhesive is removed.

### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Wear a self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode.
<b>Unusual fire or explosion hazards:</b>	None

**Hazardous combustion products:**

Trace amounts of toxic and/or irritating fumes may be released and the use of breathing apparatus is recommended.

## 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:**

Ventilate area. Do not allow product to enter sewer or waterways.

**Clean-up methods:**

Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

## 7. HANDLING AND STORAGE

**Handling:**

Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Avoid contact with fabric or paper goods. Contact with these materials may cause rapid polymerization which can generate smoke and strong irritating vapors, and cause thermal burns.

**Storage:**

For safe storage, store between 2 °C (35.6 °F) and 8 °C (46.4 °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
Ethyl 2-cyanoacrylate	0.2 ppm TWA	None	None	None
Carbon black	3 mg/m3 TWA Inhalable fraction.	3.5 mg/m3 PEL	None	None
Phthalic anhydride	1 ppm TWA (Dermal sensitization) (Respiratory sensitization)	2 ppm (12 mg/m3) PEL	None	None
Hydroquinone	1 mg/m3 TWA (Dermal sensitization)	2 mg/m3 PEL	None	None

**Engineering controls:**

Use positive down-draft exhaust ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

**Respiratory protection:**

Use a NIOSH approved air-purifying respirator with an organic vapor cartridge.

**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 nitrile gloves and aprons as necessary to prevent contact. Do not use PVC, nylon or cotton.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:**

Liquid

**Color:**

Black

**Odor:**

Sharp, Irritating

**Odor threshold:**

1 - 2 ppm

**pH:**

Not applicable

**Vapor pressure:**

< 0.5 mm hg (25 °C (77°F))

**Boiling point/range:**

> 149 °C (> 300.2 °F)

**Melting point/ range:**

Not determined

<b>Specific gravity:</b>	1.1 at 20 °C (68°F)
<b>Vapor density:</b>	3 Approximately
<b>Flash point:</b>	80 - 93 °C (176°F - 199.4 °F) Tagliabue closed cup
<b>Flammable/Explosive limits - lower:</b>	Not determined
<b>Flammable/Explosive limits - upper:</b>	Not determined
<b>Autoignition temperature:</b>	485 °C (905°F)
<b>Flammability:</b>	Not applicable
<b>Evaporation rate:</b>	Not available.
<b>Solubility in water:</b>	Polymerises in presence of water.
<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>VOC content:</b>	< 2 %; < 20 g/l (California SCAQMD Method 316B) (Estimated)
<b>Viscosity:</b>	Not available.
<b>Decomposition temperature:</b>	Not available.

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Hazardous reactions:</b>	Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
<b>Hazardous decomposition products:</b>	None
<b>Incompatible materials:</b>	Water, amines, alkalis and alcohols.
<b>Reactivity:</b>	Not available.
<b>Conditions to avoid:</b>	Spontaneous polymerization.

## 11. TOXICOLOGICAL INFORMATION

<b>Relevant routes of exposure:</b>	Skin, Inhalation, Eyes
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**Potential Health Effects/Symptoms**

**Inhalation:** May cause respiratory tract irritation. Exposure to vapors above the established exposure limit results in respiratory irritation, which may lead to difficulty in breathing and tightness in the chest.

**Skin contact:** Bonds skin in seconds. May cause skin irritation. Cyanoacrylates have been reported to cause allergic reaction but due to rapid polymerization at the skin surface, an allergic response is rare. Cyanoacrylates generate heat on solidification. In rare circumstances a large drop will burn the skin. Cured adhesive does not present a health hazard even if bonded to the skin.

**Eye contact:** Irritating to eyes. Causes excessive tearing. Eyelids may bond.

**Ingestion:** Not expected to be harmful by ingestion. Rapidly polymerizes (solidifies) and bonds in mouth. It is almost impossible to swallow.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Ethyl 2-cyanoacrylate	None	Irritant, Allergen, Respiratory
Carbon black	Oral LD50 (Rat) = > 8,000 mg/kg	Respiratory, Some evidence of carcinogenicity
Phthalic anhydride	Oral LD50 (Rat) = 800 mg/kg Oral LD50 (Mouse) = 1,500 mg/kg Oral LD50 (Rat) = 1,530 mg/kg Oral LD50 (Rat) = 4,020 mg/kg Oral LD50 (Rabbit) = > 1,000 mg/kg Dermal LD50 (Rabbit) = > 3,160 mg/kg	Allergen, Corrosive, Irritant, Respiratory
Hydroquinone	Oral LD50 (Rat) = 320 mg/kg Oral LD50 (Mouse) = 245 mg/kg Oral LD50 (Rabbit) = 540 mg/kg Dermal LD50 (Rat) = > 900 mg/kg	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Immune system, Irritant, Liver, Mutagen, Skin, Thyroid

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Ethyl 2-cyanoacrylate	No	No	No
Carbon black	No	Group 2B	No
Phthalic anhydride	No	No	No
Hydroquinone	No	No	No

**12. ECOLOGICAL INFORMATION**

**Ecological information:** Not known.

**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:** Combustible liquid, n.o.s. (Cyanoacrylate ester)  
**Hazard class or division:** Combustible Liquid  
**Identification number:** NA 1993  
**Packing group:** III

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

**Proper shipping name:** Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)  
**Hazard class or division:** 9  
**Identification number:** UN 3334  
**Packing group:** III  
**Exceptions:** Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted.

**Water Transportation (IMO/IMDG)**

**Proper shipping name:** Not regulated  
**Hazard class or division:** None  
**Identification number:** None  
**Packing group:** None

<b>15. REGULATORY INFORMATION</b>
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**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:** Hydroquinone (CAS# 123-31-9).  
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed Health, Fire, Reactive  
**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.

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

<b>16. OTHER INFORMATION</b>
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**This safety data sheet contains changes from the previous version in sections:** New Safety Data Sheet format.

**Prepared by:** Catherine Bimler, Regulatory Affairs Specialist

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