



Safety Data Sheet

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Loctite 480

MSDS-No. : 153522

V001.2

Date of issue: 10.03.2015

Section 1. Identification of the substance/preparation and of the company/undertaking

Product name: Loctite 480

Intended use: Cyanoacrylate

Supplier:

Henkel Australia Pty Ltd
135-141 Canterbury Road
Kilsyth, Victoria, 3137
Australia

Phone: +61 (3) 9724 6444

Emergency information: 24 HOUR EMERGENCY CONTACT NUMBER 03 9724 6556

Section 2. Hazards identification

Classification of the substance or mixture

Hazardous according to the criteria of Safe Work Australia.

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Target organ</u>
Flammable liquids	Category 4	
Skin irritation	Category 2	
Serious eye irritation	Category 2A	
Target Organ Systemic Toxicant - Single exposure	Category 3	respiratory tract irritation

Hazard pictogram:



Signal word:

Warning

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Hazard statement(s):	H227 Combustible liquid. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.
Precautionary Statement(s):	
Prevention:	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing mist/vapours. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves, eye protection, and face protection.
Response:	P302+P352 IF ON SKIN: Wash with plenty of soap and 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 remove. Continue rinsing. P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing. P370+P378 In case of fire: Use water spray (fog), foam, dry chemical or carbon dioxide to extinguish.
Storage:	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal:	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Classification of material Xi - Irritant

Risk phrases:

R36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

S23 Do not breathe vapour.

S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S46 If swallowed, seek medical advice immediately and show this container or label.

Dangerous Goods information:

Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Section 3. Composition / information on ingredients

General chemical description: Mixture**Identity of ingredients:**

Chemical ingredients	CAS-No.	Proportion
Ethyl 2-cyanoacrylate	7085-85-0	60- <= 100 %
Phthalic anhydride	85-44-9	< 0.5 %
Hydroquinone	123-31-9	< 0.5 %
non hazardous ingredients~		10- < 30 %

Section 4. First aid measures

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Ingestion:	Ensure that breathing passages are not obstructed. The product will polymerise immediately in the mouth making it almost impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).
Skin:	Do not pull bonded skin apart. It may be gently peeled apart using a blunt object such as a spoon, preferably after soaking in warm soapy water. Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn. Burns should be treated normally after the adhesive has been removed from the skin. If lips are accidentally stuck together apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips apart with direct opposing action.
Eyes:	If the eye is bonded closed, release eyelashes with warm water by covering with wet pad. Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Do not force eye open. Medical advice should be sought in case solid particles of cyanoacrylate trapped behind the eyelid cause any abrasive damage.
Inhalation:	Move to fresh air, consult doctor if complaint persists.
First Aid facilities:	Eye wash and safety shower Normal washroom facilities
Medical attention and special treatment:	Treat symptomatically. 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.

Section 5. Fire fighting measures

Suitable extinguishing media:	Foam, extinguishing powder, carbon dioxide. Fine water spray
Improper extinguishing media:	High pressure waterjet
Combustion behaviour:	Combustible Liquid Keep away from heat, spark, and open flames.
Decomposition products in case of fire:	Thermal decomposition can lead to release of irritating gases and vapors. carbon monoxide Carbon dioxide. Oxides of nitrogen.
Special protective equipment for fire-fighters:	Wear full protective clothing. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

Section 6. Accidental release measures

Personal precautions:	Ensure adequate ventilation. Avoid skin and eye contact. Wear protective equipment.
Environmental precautions:	Do not let product enter drains.
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. Dispose of contaminated material as waste according to Section 13.

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Section 7. Handling and storage

- Precautions for safe 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.
- Conditions for safe storage:** Store in a cool place in closed original container.
For optimum shelf life store in original containers under refrigerated conditions at 2 - 8°C (35.6 - 46.4 °F)

Section 8. Exposure controls / personal protection

National exposure standards:

Ingredient	form of exposure	TWA (ppm)	TWA (mg/m3)	Peak Limit. (ppm)	Peak Limit. (mg/m3)	STEL (ppm)	STEL (mg/m3)
PHTHALIC ANHYDRIDE 85-44-9		1	6.1	-	-	-	-
HYDROQUINONE 123-31-9			2	-	-	-	-

- Engineering controls:** Ensure good ventilation/extraction.
- Eye protection:** Wear protective glasses.
- Skin protection:** Protective clothing that covers arms and legs.
The use of chemical resistant gloves such as Nitrile is recommended.
Polyethylene or polypropylene gloves are recommended when using large volumes.
Do not use PVC, rubber or nylon gloves.
Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.
- Respiratory protection:** If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

Section 9. Physical and chemical properties

- Appearance:** Black
Liquid
- Odor:** Sharp, Irritating
- Odor threshold (CA):** 1 - 2 ppm
- Specific gravity:** 1.1
- Boiling point:** > 149 °C (> 300.2 °F)
- Flash point:** 80 - 93 °C (176 - 199.4 °F)
(Tagliabue closed cup)
- Vapor pressure:** < 0.5 mm hg
(; 25 °C (77 °F))
- Vapor density:** 3
Approximately
- Density:** 1.1 g/cm3
- Auto ignition:** 485 °C
- Decomposition temperature:**
- VOC content:** < 2 % < 20 g/l

Section 10. Stability and reactivity

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Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Keep away from sources of ignition and naked flames.
Incompatible materials:	Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapors. carbon monoxide Carbon dioxide. Oxides of nitrogen.

Section 11. Toxicological information

Health Effects:

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

Skin: 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.

Eyes: Irritating to eyes. Causes excessive tearing. Eyelids may bond.

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

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	LD50	> 5,000 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
	LD50	> 2,000 mg/kg	dermal		rabbit	
Phthalic anhydride 85-44-9	LD50	1,530 mg/kg	oral		rat	
	LD50	> 10,000 mg/kg	dermal		rabbit	
Hydroquinone 123-31-9	LD50	367 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	slightly irritating	24 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	irritating	72 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Phthalic anhydride 85-44-9	highly irritating		rabbit	

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Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	not sensitising		guinea pig	
Phthalic anhydride 85-44-9	sensitising	in vivo	guinea pig	
Phthalic anhydride 85-44-9	sensitising	Mouse local lymphnode assay (LLNA)	mouse	Mouse local lymphnode assay (LLNA)
Hydroquinone 123-31-9	sensitising	Guinea pig maximisation test	guinea pig	

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	negative negative negative	bacterial reverse mutation assay (e.g Ames test) mammalian cell gene mutation assay in vitro mammalian chromosome aberration test	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Phthalic anhydride 85-44-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
Hydroquinone 123-31-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Hydroquinone 123-31-9	LOAEL= \leq 500 mg/kg	oral: gavage	14 days 5 days/week. 12 doses	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Hydroquinone 123-31-9	NOAEL= \geq 250 mg/kg	oral: gavage	14 days 5 days/week. 12 doses	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

Section 12. Ecological information

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General ecological information: Do not empty into drains / surface water / ground water.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Phthalic anhydride 85-44-9	LC50	313 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
Phthalic anhydride 85-44-9	EC50	68 mg/l	Algae	72 h	Selenastrum sp.	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydroquinone 123-31-9	LC50	0.17 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydroquinone 123-31-9	EC50	0.29 mg/l	Daphnia	48 h	Daphnia magna	
Hydroquinone 123-31-9	EC50	0.335 mg/l	Algae	3 d	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Ethyl 2-cyanoacrylate 7085-85-0		aerobic	57 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Phthalic anhydride 85-44-9		aerobic	90 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Hydroquinone 123-31-9	readily biodegradable	aerobic	75 - 81 %	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Ethyl 2-cyanoacrylate 7085-85-0	0.776				22 °C	EU Method A.8 (Partition Coefficient)
Phthalic anhydride 85-44-9	1.6					
Hydroquinone 123-31-9	1.03					

Section 13. Disposal considerations

Waste disposal of product:

Cured adhesive: Dispose of as water insoluble non-toxic solid chemical in authorised landfill or incinerate under controlled conditions.
 Dispose of in accordance with local and national regulations.
 Contribution of this product to waste is very insignificant in comparison to article in which it is used

Disposal for uncleaned package:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.
 Disposal must be made according to official regulations.

Section 14. Transport information

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Road and Rail Transport:

Dangerous Goods information: Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Marine transport IMDG:

Not dangerous goods

Air transport IATA:

UN no.: 3334
Proper shipping name: Aviation regulated liquid, n.o.s. (Cyanoacrylate ester)
Class or division: 9
Packing group: III
Packing instructions (passenger): 964
Packing instructions (cargo): 964
Additional Information: Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted.

Section 15. Regulatory information**SUSMP Poisons Schedule** None**AICS:** All components are listed or are exempt from listing on the Australian Inventory of Chemical Substances (AICS).**Section 16. Other information**

Abbreviations/acronyms: ADGC - Australian Dangerous Goods Code
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
STEL - Short term exposure limit
TWA - Time weighted average

Reason for issue: Reviewed SDS. Reissued with new date. involved chapters: 1 - 16**Date of previous issue:** 29.03.2010**Disclaimer:**

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