



MATERIAL SAFETY DATA SHEET

SECTION 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: Loctite 454

Intended use: Adhesive

Supplier:

Henkel New Zealand Ltd
2 Allens Rd
2013 Auckland

New Zealand

Phone: +64 (9) 272-6710

Emergency information: 24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2. HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE:

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Not Classified as Dangerous Goods according to NZS 5433: 2007 and the Land Transport Rule: Dangerous Goods 2005.

HSNO Classification:

3.1D Class 3 - Flammability, Subclass 3.1 - Liquids, Hazard Classification D
Class 6 - Toxicity, Subclass 6.3 - Skin irritant, Hazard Classification A
Class 6 - Toxicity, Subclass 6.4 - Eye irritant, Hazard Classification A
Class 6 - Toxicity, Subclass 6.8 - Reproductive/developmental, Hazard Classification B

Hazard Statements:

Hazard statement: H227 Combustible liquid.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.



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Precautionary Statements:

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from open flames/hot surfaces. - No smoking.
P280 Wear protective gloves/eye protection.
P264 Wash skin thoroughly after handling.

Response:

P370+P378 In case of fire: Use water spray (fog), foam, dry chemical or carbon dioxide to extinguish.

Storage:

P302+P352 IF ON SKIN: Wash with plenty of water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Signal word:

Warning

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
Ethyl 2-cyanoacrylate	7085-85-0	60 - 90 %
Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane	119-47-1	0.1 - 1 %
Non hazardous remainder~		> 10 %

SECTION 4. FIRST AID MEASURES

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.



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SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	Foam, extinguishing powder, carbon dioxide. Fine water spray
Unsuitable extinguishing media:	None known
Particular danger in case of fire:	In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO ₂) can be released. In case of fire, keep containers cool with water spray.
Decomposition products in case of fire:	Oxides of carbon, oxides of nitrogen, irritating organic vapors.
Special protective equipment for fire-fighters:	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

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.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:	Ventilation (low level) is recommended when using large volumes Use of dispensing equipment is recommended to minimise the risk of skin or eye contact
Conditions for safe storage:	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

Workplace exposure standards:	
None	
Engineering controls:	Ensure good ventilation/extraction.
Eye protection:	Wear protective glasses.



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Skin protection:

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:	Clear Liquid, Gel
Odor:	Irritating
Specific gravity:	1.05
Density:	1.0500 g/cm ³
Boiling point:	> 149 °C (> 300.2 °F)
Flash point:	80 - 93.4 °C (176 - 200.12 °F)
VOC content (1999/13/EC)	< 3.00 %
Solubility:	Solvent: Acetone, Miscible Solvent: Water, Polymerises in presence of water.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of temperature and pressure.
Conditions to avoid:	Excessive heat.
Incompatible materials:	Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.
Hazardous decomposition products:	In case of fire toxic gases can be released.

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.



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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.

Aggravated medical condition: Eye, skin, and respiratory disorders.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Ethyl 2-cyanoacrylate 7085-85-0	LD50 LD50	> 5,000 mg/kg > 2,000 mg/kg	oral dermal		rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
Non hazardous remainder~			oralinhalationder mal			

SECTION 12. ECOLOGICAL INFORMATION

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

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

Dangerous Goods information:

Not Classified as Dangerous Goods according to NZS 5433: 2007 and the Land Transport Rule: Dangerous Goods 2005.

Marine transport IMDG:

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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

New Zealand regulatory information:

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

HSNO Approval Number: HSR002657

Site and Storage: Refer to the site and storage requirements for this Group Standard.

NZIoC: Compliant for NZIoC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms: STEL - Short term exposure limit
TWA - Time weighted average
HSNO - Hazardous Substances and New Organisms
CAS: Chemical Abstracts Service
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

Reason of change: New Safety Data Sheet format. involved chapters: 1-16

Date of previous issue: 30.04.2009

Disclaimer:



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The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel New Zealand Pty. Limited, but only as an approximate guide to the content of hazardous ingredients in the material. The information contained herein does not constitute a guarantee by Henkel New Zealand Pty. Limited concerning the properties of the material.

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