# Safety Data Sheet



LOCTITE 454

SDS No. : 427527
V001.2
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## SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product name:** LOCTITE 454

**Intended use:** Adhesive

**Supplier:**
Henkel New Zealand Ltd
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Auckland, 2013
New Zealand

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**Emergency information:** 24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

## SECTION 2 HAZARDS IDENTIFICATION

**Classification of the substance or mixture**
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: 2012 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

**GHS Classification:**

| Hazard Class | Hazard Category | Target organ |
|---|---|---|
| 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

**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 dust/fume/gas/mist/vapours/spray.
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 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.
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 dry sand, dry chemical or alcohol-resistant foam for extinction.

**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.

## 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 % |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane | 119-47-1 | < 3 % |
| non hazardous ingredients~ | | 10- < 30 % |

## 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.<br>Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn.<br>Burns should be treated normally after the adhesive has been removed from the skin.<br>If lips are accidentally stuck together apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth.<br>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.<br>Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to debond the adhesive.<br>Keep eye covered until debonding is complete, usually within 1-3 days.<br>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<br>Normal washroom facilities |
| **Medical attention and special treatment:** | 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.<br>Fine water spray |
| **Improper extinguishing media:** | High pressure waterjet |
| **Combustion behaviour:** | Combustible Liquid<br>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.<br>carbon monoxide<br>Carbon dioxide.<br>Oxides of nitrogen. |
| **Special protective equipment for fire-fighters:** | Wear full protective clothing.<br>Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA). |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Personal precautions:** | Ensure adequate ventilation.<br>Avoid skin and eye contact.<br>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.<br>Dispose of contaminated material as waste according to Section 13. |

## 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.<br>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.<br>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. |
| **Skin protection:** | Protective clothing that covers arms and legs.<br>The use of chemical resistant gloves such as Nitrile is recommended.<br><br>Polyethylene or polypropylene gloves are recommended when using large volumes.<br><br>Do not use PVC, rubber or nylon gloves.<br><br>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<br>liquid |
| **Odor:** | irritating |
| **Odor threshold (CA):** | 1 - 2 ppm |
| **Specific gravity:** | 1.05 |
| **Boiling point:** | > 149 °C (> 300.2 °F) |
| **Flash point:**<br>(Tagliabue closed cup) | 80 - 93 °C (176 - 199.4 °F) |
| **Vapor pressure:**<br>(no method; 50 °C (122 °F)) | < 700 mbar |
| **Vapor density:** | 3 |
| **Density:** | 1.05 g/cm3 |
| **Solubility in water:** | Polymerizes on contact with water. |
| **Auto ignition:** | 485 °C |
| **Decomposition temperature:** | |
| **Viscosity (dynamic):**<br>(; Instrument: RVT; speed of rotation: 20 min-1; Spindle No: TC; Method: ;; LCT STM 10; Viscosity Brookfield) | 18,000 - 40,000 mPa.s |

**VOC content:** < 2 % < 20 g/l

## SECTION 10. STABILITY AND REACTIVITY

**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<br>CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---|---|---|---|---|---|---|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | LD50<br>LD50 | > 5,000 mg/kg<br>> 2,000 mg/kg | oral<br>dermal | | rat<br>rabbit | OECD Guideline 401 (Acute Oral Toxicity)<br>OECD Guideline 402 (Acute Dermal Toxicity) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane<br>119-47-1 | LD50<br>LD50 | > 10,000 mg/kg<br>> 10,000 mg/kg | oral<br>dermal | | rat<br>rat | not specified<br>not specified |

**Skin corrosion/irritation:**

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

**Serious eye damage/irritation:**

| Hazardous components<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | irritating | 72 h | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

**Respiratory or skin sensitization:**

| Hazardous components CAS-No. | Result | Test type | Species | Method |
|---|---|---|---|---|
| Ethyl 2-cyanoacrylate 7085-85-0 | not sensitising | | guinea pig | not specified |

**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<br>negative<br>negative | bacterial reverse mutation assay (e.g Ames test)<br>mammalian cell gene mutation assay<br>in vitro mammalian chromosome aberration test | with and without<br>with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay)<br>OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)<br>OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |

## 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 |
|---|---|---|---|---|---|---|
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | EC 50 | > 10,000 mg/l | Bacteria | 3 h | | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |

**Persistence and degradability:**

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|---|---|---|---|---|
| Ethyl 2-cyanoacrylate 7085-85-0 | not readily biodegradable. | aerobic | 57 % | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | under test conditions no biodegradation observed | aerobic | 0 % | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |

**Bioaccumulative potential / Mobility in soil:**

| Hazardous components CAS-No. | LogPow | Bioconcentration factor (BCF) | Exposure time | Species | Temperature | Method |
|---|---|---|---|---|---|---|
| Ethyl 2-cyanoacrylate 7085-85-0 | 0.776 | | | | 22 °C | EU Method A.8 (Partition Coefficient) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | | 320 - 780 | 60 d | Cyprinus carpio | | OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | 6.25 | | | | 20 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask 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: 2012 and the Land Transport Rule: Dangerous Goods 2005.

**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 |

## 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:** Group standard HSR002657

**Site and Storage:** Refer to the site and storage requirements for this Group Standard.
Refer to the HSNO controls for approved hazardous substances.

**NZIoC:** The hazardous components of this product are listed on the New Zealand Inventory of chemicals (NZIoC).

## SECTION 16. OTHER INFORMATION

**Abbreviations/acronyms:** IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

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**Date of previous issue:** 25.07.2017

**Disclaimer:**

The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel New Zealand 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 Limited concerning the properties of the material.
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