



## Safety Data Sheet according to (EC) No 1907/2006

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Loctite 454

sds no. : 427527  
V001.4  
Revision: 20.02.2012  
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Loctite 454

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:  
Cyanoacrylate

#### 1.3. Details of the supplier of the safety data sheet

Henkel Limited  
2 Bishop Square Business Park  
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933  
Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.com

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (DPD):

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

#### 2.2. Label elements

**Label elements (DPD):**

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.

**Additional labeling:**

Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

**2.3. Other hazards**

None if used properly.

**SECTION 3: Composition/information on ingredients****General chemical description:**

Cyanoacrylate Adhesive

**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

| Hazardous components<br>CAS-No.    | EC Number<br>REACH-Reg No.    | content       | Classification   |
|------------------------------------|-------------------------------|---------------|--|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | 230-391-5<br>01-2119527766-29 | > 80- < 100 % | Skin irritation 2<br>H315<br>Specific target organ toxicity - single<br>exposure 3<br>H335<br>Serious eye irritation 2<br>H319 |

For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.

**Declaration of ingredients according to DPD (EC) No 1999/45:**

| Hazardous components<br>CAS-No.    | EC Number<br>REACH-Reg No.    | content        | Classification           |
|------------------------------------|-------------------------------|----------------|--------------------------|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | 230-391-5<br>01-2119527766-29 | > 80 - < 100 % | Xi - Irritant; R36/37/38 |

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.  
Substances without classification may have community workplace exposure limits available.

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation:**

Move to fresh air, consult doctor if complaint persists.

**Skin contact:**

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.

**Eye contact:**

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.

**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).

**4.2. Most important symptoms and effects, both acute and delayed**

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

**4.3. Indication of any immediate medical attention and special treatment needed**

See section: Description of first aid measures

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable extinguishing media:**

Foam, extinguishing powder, carbon dioxide.  
Fine water spray

**Extinguishing media which must not be used for safety reasons:**

None known

**5.2. Special hazards arising from the substance or mixture**

Oxides of carbon, oxides of nitrogen, irritating organic vapors.

**5.3. Advice for firefighters**

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

**6.2. Environmental precautions**

Do not let product enter drains.

**6.3. Methods and material for containment and cleaning up**

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.

**6.4. Reference to other sections**

See advice in chapter 8

**SECTION 7: Handling and storage****7.1. 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

## Hygiene measures:

Good industrial hygiene practices should be observed.  
Wash hands before work breaks and after finishing work.  
Do not eat, drink or smoke while working.

**7.2. Conditions for safe storage, including any incompatibilities**

For optimum shelf life store in original containers under refrigerated conditions at 2 - 8°C (35.6 - 46.4 °F)

**7.3. Specific end use(s)**

Cyanoacrylate

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

Valid for  
Great Britain

| Ingredient                       | ppm | mg/m <sup>3</sup> | Type                                 | Category | Remarks  |
|----------------------------------|-----|-------------------|--------------------------------------|----------|----------|
| ETHYL CYANOACRYLATE<br>7085-85-0 | 0,3 | 1,5               | Short Term Exposure<br>Limit (STEL): |          | EH40 WEL |

**8.2. Exposure controls:**

## Respiratory protection:

Ensure adequate ventilation.

## Hand protection:

The use of chemical resistant gloves such as Nitrile are 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.

## Eye protection:

Wear protective glasses.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                           |   |
|---------------------------|---|
| Appearance                | liquid                                    |
| Odor                      | Colorless<br>irritating                   |
| pH                        | No data available / Not applicable        |
| Initial boiling point     | > 149 °C (> 300.2 °F)                     |
| Flash point               | 80 - 93,4 °C (176 - 200.12 °F); no method |
| Decomposition temperature | No data available / Not applicable        |
| Vapour pressure           | No data available / Not applicable        |
| Density<br>( )            | 1,05 g/cm <sup>3</sup>                    |
| Bulk density              | No data available / Not applicable        |
| Viscosity                 | No data available / Not applicable        |
| Viscosity (kinematic)     | No data available / Not applicable        |
| Explosive properties      | No data available / Not applicable        |

|  |                                    |
|--|------------------------------------|
| Solubility (qualitative)               | Polymerises in presence of water.  |
| Solidification temperature             | No data available / Not applicable |
| Melting point                          | No data available / Not applicable |
| Flammability                           | No data available / Not applicable |
| Auto-ignition temperature              | No data available / Not applicable |
| Explosive limits                       | No data available / Not applicable |
| Partition coefficient: n-octanol/water | No data available / Not applicable |
| Evaporation rate                       | No data available / Not applicable |
| Vapor density                          | No data available / Not applicable |
| Oxidising properties                   | No data available / Not applicable |

**9.2. Other information**

No data available / Not applicable

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

Rapid exothermic polymerization will occur in the presence of water, amines, alkalis and alcohols.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

Stable under normal conditions of storage and use.

**10.5. Incompatible materials**

None if used properly.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects****General toxicological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**Oral toxicity:**

Cyanoacrylates are considered to have relatively low toxicity. Acute oral LD50 is >5000mg/kg (rat). It is almost impossible to swallow as it rapidly polymerises in the mouth.

**Inhalative toxicity:**

Irritating to respiratory system  
Prolonged exposure to high concentrations of vapours may lead to chronic effects in sensitive individuals  
In dry atmosphere with < 50% humidity, vapours may irritate the eyes and respiratory system

**Skin irritation:**

Irritating to the skin.  
Bonds skin in seconds. Considered to be of low toxicity: acute dermal LD50 (rabbit)>2000mg/kg  
Due to polymerisation at the skin surface allergic reaction is unlikely to occur

**Eye irritation:**

Irritating to eyes.  
Liquid product will bond eyelids. In a dry atmosphere (RH<50%) vapours may cause irritation and lachrymatory effect

**Acute toxicity:**

| Hazardous components<br>CAS-No.    | Value<br>type | Value                          | Route of<br>application | Exposure<br>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) |

**Skin corrosion/irritation:**

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

**Serious eye damage/irritation:**

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

**Germ cell mutagenicity:**

| Hazardous components<br>CAS-No.    | Result                           | Type of study /<br>Route of<br>administration  | Metabolic<br>activation /<br>Exposure time | Species | Method   |
|------------------------------------|----------------------------------|--|--|---------|--|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | negative<br>negative<br>negative | bacterial reverse<br>mutation assay (e.g<br>Ames test)<br>mammalian cell<br>gene mutation assay<br>in vitro mammalian<br>chromosome<br>aberration test | with and without<br>with and without       |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)<br>OECD Guideline 476 (In vitro<br>Mammalian Cell Gene<br>Mutation Test)<br>OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test) |

**SECTION 12: Ecological information****General ecological information:**

Biological and Chemical Oxygen Demands (BOD and COD) are insignificant.

Do not empty into drains / surface water / ground water.

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**Ecotoxicity:**

No data available.

**Mobility:**

Cured adhesives are immobile.

**Persistence and Biodegradability:**

No data available.

**12.2. Persistence and degradability**

| Hazardous components<br>CAS-No.    | Result | Route of<br>application | Degradability | Method  |
|------------------------------------|--------|-------------------------|---------------|---|
| Ethyl 2-cyanoacrylate<br>7085-85-0 |        | aerobic                 | 57 %          | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test) |

**12.3. Bioaccumulative potential / 12.4. Mobility in soil**

| Hazardous components<br>CAS-No.    | LogKow | Bioconcentration<br>factor (BCF) | Exposure<br>time | Species | Temperature | Method                                   |
|------------------------------------|--------|----------------------------------|------------------|---------|-------------|--|
| Ethyl 2-cyanoacrylate<br>7085-85-0 | 0,776  |                                  |                  |         | 22 °C       | EU Method A.8 (Partition<br>Coefficient) |

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Product disposal:

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 of uncleaned packages:

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.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

### SECTION 14: Transport information

**Road transport ADR:**

Not dangerous goods

**Railroad transport RID:**

Not dangerous goods

**Inland water transport ADN:**

Not dangerous goods

**Marine transport IMDG:**

Not dangerous goods

**Air transport IATA:**

|                                    |   |
|------------------------------------|---|
| Class:                             | 9   |
| Packaging group:                   |   |
| Packaging instructions (passenger) |   |
| Packaging instructions (cargo)     |   |
| UN no.:                            | 3334  |
| Label:                             | 9   |
| Proper shipping name:              | Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) |

### SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

## SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

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

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

### **Further information:**

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

This safety data sheet was prepared in accordance with Council Directive 67/548/EEC and its subsequent amendments, and Commission Directive 1999/45/EC.