



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

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Loctite 416

sds no. : 153534

V002.4

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier:

Loctite 416

Relevant identified uses of the substance or mixture and uses advised against:

Intended use:

Cyanoacrylate

Details of the supplier of the safety data sheet:

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SECTION 2: Hazards identification

Classification of the substance or mixture:

Classification (DPD):

Xi - Irritant

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

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.

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

Only dangerous ingredients for which a CLP classification is already available are displayed in this table.

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 CAS-No.	EC Number REACH-Reg No.	content	Classification
Ethyl 2-cyanoacrylate 7085-85-0	230-391-5 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**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).

Most important symptoms and effects, both acute and delayed:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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

Indication of any immediate medical attention and special treatment needed:

See section: Description of first aid measures

SECTION 5: Firefighting measures

Extinguishing media:

Suitable extinguishing media:

Foam, extinguishing powder, carbon dioxide.

Fine water spray

Special hazards arising from the substance or mixture:

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

Advice for firefighters:

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation.

Environmental precautions:

Do not let product enter drains.

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.

Reference to other sections:

See advice in chapter 8

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

Hygiene measures:

Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

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)

Specific end use(s):

Cyanoacrylate

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

Valid for
Great Britain

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

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**Information on basic physical and chemical properties:**

Appearance	liquid liquid Clear
Odor	no valuation
pH	No data available / Not applicable
Initial boiling point	> 149 °C (> 300.2 °F)
Flash point	80 - 93,3 °C (176 - 199.94 °F); Tagliabue closed cup
Decomposition temperature	No data available / Not applicable
Vapour pressure (25 °C (77 °F))	< 0,6 mbar
Density (20 °C (68 °F))	1,1 g/cm ³
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) (Solvent: Water)	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

Other information:

No data available / Not applicable

SECTION 10: Stability and reactivity**Reactivity:**

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

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reactions:

See section reactivity

Conditions to avoid:

Stable under normal conditions of storage and use.

Incompatible materials:

None if used properly.

SECTION 11: Toxicological information**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 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)

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)

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)

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.

Bioaccumulative potential:

No data available.

Persistence and degradability:

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

SECTION 13: Disposal considerations**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)

Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted.

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

VOC content < 3 %
(1999/13/EC)

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.