



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

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LOCTITE 454

SDS No. : 427527
V004.2

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

1.1. Product identifier

LOCTITE 454

Contains:

Ethyl 2-cyanoacrylate

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

Intended use:

Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000

Fax-no.: +44 1442 278071

ua-productsafety.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 (CLP):

Skin irritation Category 2

H315 Causes skin irritation.

Serious eye irritation Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure Category 3

H335 May cause respiratory irritation.

Target organ: respiratory tract irritation

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



| | |
|--|--|
| Signal word: | Warning |
| Hazard statement: | H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. |
| Supplemental information | EUH202 Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. |
| Precautionary statement: Prevention | P261 Avoid breathing vapours. P280 Wear protective gloves/eye protection. |
| Precautionary statement: Response | P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. |
| Precautionary statement: Disposal | P501 Dispose of contents/container in accordance with national regulation. |

2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****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 | 50- 100 % | Eye Irrit. 2 H319 STOT SE 3 H335 Skin Irrit. 2 H315 |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | 204-327-1 01-2119496065-33 | 0,1- < 1 % | Repr. 2 H361 |
| Hydroquinone 123-31-9 | 204-617-8 01-2119524016-51 | 0,01- < 0,1 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 Carc. 2 H351 Muta. 2 H341 Acute Tox. 4; Oral H302 Eye Dam. 1 H318 Skin Sens. 1 H317 M factor (Acute Aquat Tox): 10 |

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.

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:

water, carbon dioxide, foam, powder

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

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

5.3. Advice for firefighters

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

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

Avoid contact with skin and eyes.

Wear protective equipment.

6.2. Environmental precautions

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

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 section 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

Avoid skin and eye contact.

See advice in section 8

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

Refer to Technical Data Sheet

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

7.3. Specific end use(s)

Adhesive

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

Valid for

Great Britain

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|-----------------------------------|--|-----------------|
| Ethyl 2-cyanoacrylate 7085-85-0 [ETHYL CYANOACRYLATE] | 0,3 | 1,5 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| Hydroquinone 123-31-9 [HYDROQUINONE] | | 0,5 | Time Weighted Average (TWA): | | EH40 WEL |

Occupational Exposure Limits

Valid for

Ireland

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|------------------------------|--|-----------------|
| Ethyl 2-cyanoacrylate 7085-85-0 [ETHYL CYANOACRYLATE] | 0,2 | | Time Weighted Average (TWA): | | IR_OEL |
| Hydroquinone 123-31-9 [HYDROQUINONE] | | 0,5 | Time Weighted Average (TWA): | | IR_OEL |

Predicted No-Effect Concentration (PNEC):

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|------------------------------|-----------------|--------------|-----|-------------|--------|---------|
| | | | mg/l | ppm | mg/kg | others | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | aqua (freshwater) | | 0,0068 mg/l | | | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | aqua (marine water) | | 0,00068 mg/l | | | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | aqua (intermittent releases) | | 0,048 mg/l | | | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | sewage treatment plant (STP) | | 100 mg/l | | | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | sediment (freshwater) | | | | 102 mg/kg | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | sediment (marine water) | | | | 10,2 mg/kg | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | soil | | | | 20,4 mg/kg | | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | oral | | | | 10 mg/kg | | |
| Hydroquinone 123-31-9 | aqua (freshwater) | | 0,114 µg/l | | | | |
| Hydroquinone 123-31-9 | aqua (marine water) | | 0,0114 µg/l | | | | |
| Hydroquinone 123-31-9 | sediment (freshwater) | | | | 0,98 µg/kg | | |
| Hydroquinone 123-31-9 | sediment (marine water) | | | | 0,097 µg/kg | | |
| Hydroquinone 123-31-9 | aqua (intermittent releases) | | 0,00134 mg/l | | | | |
| Hydroquinone 123-31-9 | soil | | | | 0,129 µg/kg | | |
| Hydroquinone 123-31-9 | sewage treatment plant (STP) | | 0,71 mg/l | | | | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|--|--------------------|-------------------|--|---------------|------------------------|---------|
| Ethyl 2-cyanoacrylate 7085-85-0 | Workers | Inhalation | Long term exposure - local effects | | 9,25 mg/m ³ | |
| Ethyl 2-cyanoacrylate 7085-85-0 | Workers | Inhalation | Long term exposure - systemic effects | | 9,25 mg/m ³ | |
| Ethyl 2-cyanoacrylate 7085-85-0 | General population | Inhalation | Long term exposure - local effects | | 9,25 mg/m ³ | |
| Ethyl 2-cyanoacrylate 7085-85-0 | General population | Inhalation | Long term exposure - systemic effects | | 9,25 mg/m ³ | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | dermal | Acute/short term exposure - systemic effects | | 3,175 mg/kg | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | Inhalation | Acute/short term exposure - systemic effects | | 22,4 mg/m ³ | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | dermal | Long term exposure - systemic effects | | 0,635 mg/kg | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | Inhalation | Long term exposure - systemic effects | | 4,48 mg/m ³ | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | dermal | Acute/short term exposure - systemic effects | | 1,59 mg/kg | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | Inhalation | Acute/short term exposure - systemic effects | | 5,5 mg/m ³ | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | oral | Acute/short term exposure - systemic effects | | 1,59 mg/kg | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | dermal | Long term exposure - systemic effects | | 0,318 mg/kg | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | Inhalation | Long term exposure - systemic effects | | 1,1 mg/m ³ | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | General population | oral | Long term exposure - systemic effects | | 0,318 mg/kg | |
| Hydroquinone 123-31-9 | Workers | dermal | Long term exposure - systemic effects | | 128 mg/kg | |
| Hydroquinone 123-31-9 | Workers | Inhalation | Long term exposure - systemic effects | | 7 mg/m ³ | |
| Hydroquinone 123-31-9 | Workers | Inhalation | Long term exposure - local effects | | 1 mg/m ³ | |
| Hydroquinone 123-31-9 | General population | dermal | Long term exposure - systemic effects | | 64 mg/kg | |
| Hydroquinone 123-31-9 | General population | Inhalation | Long term exposure - systemic effects | | 1,74 mg/m ³ | |
| Hydroquinone 123-31-9 | General population | Inhalation | Long term exposure - local effects | | 0,5 mg/m ³ | |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; ≥ 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; ≥ 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

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.
The use of chemical resistant gloves such as Neoprene or Natural Rubber is recommended

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

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

| | |
|----------------------------|---|
| Appearance | liquid |
| Odor | Colorless |
| Odour threshold | irritating |
| | No data available / Not applicable |
| pH | No data available / Not applicable |
| Melting point | No data available / Not applicable |
| Solidification temperature | No data available / Not applicable |
| Initial boiling point | > 149 °C (> 300.2 °F) |
| Flash point | 80 - 93 °C (176 - 199.4 °F); Tagliabue closed cup |
| Evaporation rate | No data available / Not applicable |
| Flammability | No data available / Not applicable |

| | |
|--|------------------------------------|
| Explosive limits | No data available / Not applicable |
| Vapour pressure (50 °C (122 °F)) | < 700 mbar |
| Relative vapour density: | No data available / Not applicable |
| Density (ρ) | 1,05 g/cm ³ |
| Bulk density | No data available / Not applicable |
| Solubility | No data available / Not applicable |
| Solubility (qualitative) | Polymerises in presence of water. |
| Partition coefficient: n-octanol/water | No data available / Not applicable |
| Auto-ignition temperature | No data available / Not applicable |
| Decomposition temperature | 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 |
| 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

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

STOT-single exposure:

May cause respiratory irritation.

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:

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:

Causes skin irritation.

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:

Causes serious eye irritation.

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

Acute oral 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) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | LD50 | > 10.000 mg/kg | oral | | rat | not specified |
| Hydroquinone 123-31-9 | LD50 | 367 mg/kg | oral | | rat | OECD Guideline 401 (Acute Oral Toxicity) |

Acute dermal toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---|------------|----------------|----------------------|---------------|---------|--|
| Ethyl 2-cyanoacrylate 7085-85-0 | LD50 | > 2.000 mg/kg | dermal | | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | LD50 | > 10.000 mg/kg | dermal | | rat | not specified |

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) |

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 |
| Hydroquinone 123-31-9 | sensitising | Guinea pig maximisation test | 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 | bacterial reverse mutation assay (e.g Ames test) | | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| | negative | in vitro mammalian chromosome aberration test | with and without | | 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) |
| Hydroquinone 123-31-9 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | EU Method B.13/14 (Mutagenicity) |

Reproductive toxicity:

| Hazardous substances CAS-No. | Result / Classification | Species | Exposure time | Species | Method |
|---|-------------------------|---------------------------|------------------|---------|--|
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | NOAEL P = 12,5 mg/kg | screening oral: gavage | | rat | OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |

Repeated dose toxicity

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---------------------------------|----------------------------|-------------------------|--|---------|--|
| 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) |
| 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) |

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

Biological and Chemical Oxygen Demands (BOD and COD) are insignificant.
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity**Ecotoxicity:**

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

| 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) |
| Hydroquinone 123-31-9 | LC50 | 0,638 mg/l | Fish | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Hydroquinone 123-31-9 | EC50 | 0,134 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroquinone 123-31-9 | EC50 | 0,335 mg/l | Algae | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) not specified |
| Hydroquinone 123-31-9 | EC 50 | 0,038 mg/l | Bacteria | 30 min | | |
| Hydroquinone 123-31-9 | NOEC | 0,0057 mg/l | chronic Daphnia | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

12.2. Persistence and degradability**Persistence and Biodegradability:**

No data available.

| 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) |
| 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)) |
| Hydroquinone 123-31-9 | readily biodegradable | aerobic | 75 - 81 % | EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test) |

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

Cured adhesives are immobile.

Bioaccumulative potential:

No data available.

| 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 Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | 6,25 | 320 - 780 | 60 d | Cyprinus carpio | 20 °C | OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test) OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Hydroquinone 123-31-9 | 0,59 | | | | | EU Method A.8 (Partition Coefficient) |

12.5. Results of PBT and vPvB assessment

| Hazardous components CAS-No. | PBT/vPvB |
|---|---|
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane 119-47-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Hydroquinone 123-31-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |

12.6. Other adverse effects

No data available.

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

Collection and delivery to recycling enterprise or other registered elimination institution.

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

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information**14.1. UN number**

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | 3334 |

14.2. UN proper shipping name

| | |
|------|---|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) |

14.3. Transport hazard class(es)

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | 9 |

14.4. Packing group

| | |
|------|---------------------|
| ADR | Not dangerous goods |
| RID | Not dangerous goods |
| ADN | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | III |

14.5. Environmental hazards

| | |
|------|----------------|
| ADR | not applicable |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

14.6. Special precautions for user

| | |
|------|---|
| ADR | not applicable |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted. |

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**VOC content < 3 %
(2010/75/EC)**15.2. Chemical safety assessment**

A chemical safety assessment has been carried out.

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:

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

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.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.

Annex - Exposure Scenarios:

Exposure Scenarios for ethyl 2-cyanoacrylate can be downloaded under the following link:
http://mysds.henkel.com/mysds/.470833..en.ANNEX_DE.15743123.0.DE.pdf
Alternatively they can be accessed on the internet site www.mysds.henkel.com by entering number 470833.