

LOCTITE 454

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

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SDS No.: 442955

V003.3 Revision: 27.07.2016

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Replaces version from: 12.01.2016

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@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:



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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: P261 Avoid breathing vapours.

Prevention P280 Wear protective gloves/eye protection.

Precautionary statement: P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

Response 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 waste and residues in accordance with local authority requirements.

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 | EC Number | content | Classification |
|-------------------------------|------------------|--------------|--------------------------------|
| CAS-No. | REACH-Reg No. | | |
| Ethyl 2-cyanoacrylate | 230-391-5 | 50- 100 % | Eye Irrit. 2 |
| 7085-85-0 | 01-2119527766-29 | | H319 |
| | | | STOT SE 3 |
| | | | H335 |
| | | | Skin Irrit. 2 |
| | | | H315 |
| Bis(2-hydroxy-3-tert-butyl-5- | 204-327-1 | 0,1-< 1 % | Repr. 2 |
| methylphenyl)methane | 01-2119496065-33 | , | H361 |
| 119-47-1 | | | |
| Hydroquinone | 204-617-8 | 0,01-< 0,1 % | Aquatic Acute 1 |
| 123-31-9 | 01-2119524016-51 | | 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.

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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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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

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

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

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

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

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

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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:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

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)

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 | V A | 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/m³ | 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 [HYDROOUINONE] | | 0,5 | Time Weighted Average (TWA): | | IR_OEL |

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$\label{eq:predicted} \textbf{Predicted No-Effect Concentration (PNEC):}$

| 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 food | |
| 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 | |

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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/m3 | |
| Ethyl 2-cyanoacrylate 7085-85-0 | Workers | Inhalation | Long term exposure - systemic effects | | 9,25 mg/m3 | |
| Ethyl 2-cyanoacrylate 7085-85-0 | general population | Inhalation | Long term exposure - local effects | | 9,25 mg/m3 | |
| Ethyl 2-cyanoacrylate 7085-85-0 | general population | Inhalation | Long term exposure - systemic effects | | 9,25 mg/m3 | |
| 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 bw/day | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | Inhalation | Acute/short term exposure - systemic effects | | 22,4 mg/m3 | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | dermal | Long term exposure - systemic effects | | 0,635 mg/kg bw/day | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | Workers | Inhalation | Long term exposure - systemic effects | | 4,48 mg/m3 | |
| 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 bw/day | |
| 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/m3 | |
| 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 bw/day | |
| 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 bw/day | |
| 6,6'-di-tert-Butyl-2,2'-methylenedi-p-cresol 119-47-1 | general population | Inhalation | Long term exposure - systemic effects | | 1,1 mg/m3 | |
| 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 bw/day | |
| Hydroquinone 123-31-9 | Workers | dermal | Long term exposure - systemic effects | | 128 mg/kg bw/day | |
| Hydroquinone 123-31-9 | Workers | Inhalation | Long term exposure - systemic effects | | 7 mg/m3 | |
| Hydroquinone 123-31-9 | Workers | Inhalation | Long term exposure - local effects | | 1 mg/m3 | |
| Hydroquinone 123-31-9 | general population | dermal | Long term exposure - systemic effects | | 64 mg/kg bw/day | |
| Hydroquinone 123-31-9 | general population | Inhalation | Long term exposure - systemic effects | | 1,74 mg/m3 | |
| Hydroquinone 123-31-9 | general population | Inhalation | Long term exposure - local effects | | 0,5 mg/m3 | |

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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

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:

Wear protective glasses.

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 colourless
Odor Irritating

Odour threshold No data available / Not applicable

pH No data available / Not applicable Initial boiling point No data available / Not applicable

Flash point 80 °C (176 °F)

Decomposition temperature No data available / Not applicable

Vapour pressure < 700 mbar

(50 °C (122 °F))

Density 1,05 g/cm3

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Bulk density No data available / Not applicable

Viscosity 18.000 - 40.000 mPa.s

(; Instrument: RVT; speed of rotation: 20 min-

1; Spindle No: TC)

Viscosity (kinematic) No data available / Not applicable Explosive properties No data available / Not applicable Solubility (qualitative) Polymerises in presence of water.

(Solvent: 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 No data available / Not applicable Vapor density 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

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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 | Value | Value | Route of | Exposure | Species | Method |
|-----------------------------------|-------|----------------|-------------|----------|---------|---|
| CAS-No. | type | | application | time | | |
| 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- | LD50 | > 10.000 mg/kg | oral | | rat | |
| methylphenyl)methane 119-47-1 | | | | | | |
| Hydroquinone 123-31-9 | LD50 | 367 mg/kg | oral | | rat | OECD Guideline 401 (Acute Oral Toxicity) |

Acute dermal toxicity:

| Hazardous components | Value | Value | Route of | Exposure | Species | Method |
|-----------------------|-------|----------------|-------------|----------|---------|---------------------------|
| CAS-No. | type | | application | time | | |
| Ethyl 2-cyanoacrylate | LD50 | > 2.000 mg/kg | dermal | | rabbit | OECD Guideline 402 (Acute |
| 7085-85-0 | | | | | | Dermal Toxicity) |
| Bis(2-hydroxy-3-tert- | LD50 | > 10.000 mg/kg | dermal | | rat | - |
| butyl-5- | | | | | | |
| methylphenyl)methane | | | | | | |
| 119-47-1 | | | | | | |

Skin corrosion/irritation:

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

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|------------------------------|------------|---------------|---------|-----------------------------|
| Ethyl 2-cyanoacrylate | irritating | 72 h | rabbit | OECD Guideline 405 (Acute |
| 7085-85-0 | | | | 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 | |
| Hydroquinone 123-31-9 | sensitising | Guinea pig maximisat ion test | guinea pig | |

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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 | Result / Classification | Species | Exposure | Species | Method |
|-----------------------|--------------------------------|--------------|----------|---------|------------------------|
| CAS-No. | | | time | | |
| Bis(2-hydroxy-3-tert- | NOAEL $P = 12.5 \text{ mg/kg}$ | screening | | rat | OECD Guideline 421 |
| butyl-5- | | oral: gavage | | | (Reproduction / |
| methylphenyl)methane | | | | | Developmental Toxicity |
| 119-47-1 | | | | | 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=>= 250 mg/kg | oral: gavage | 14 days5 days/week. 12 doses | rat | OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| Hydroquinone 123-31-9 | LOAEL=<= 500 mg/kg | oral: gavage | 14 days5 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.

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| Hazardous components CAS-No. | Value | Value | Acute | Exposure time | Species | Method |
|---|-------|---------------|--------------------|---------------|--|--|
| CAS-No. | type | | Toxicity Study | ume | | |
| Bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane | EC 50 | > 10.000 mg/l | Bacteria | 3 h | | OECD Guideline 209 (Activated |
| 119-47-1 | | | | | | 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: Pseudokirchnerella subcapitata) | OECD Guideline |
| 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" BiodegradabilityClosed Bottle Test) |

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Cured adhesives are immobile.

Bioaccumulative potential: No data available.

| Hazardous components | LogKow | Bioconcentration | Exposure | Species | Temperature | Method |
|-------------------------------|--------|------------------|----------|---------|-------------|----------------------------|
| CAS-No. | | factor (BCF) | time | | | |
| Ethyl 2-cyanoacrylate | 0,776 | | | | 22 °C | EU Method A.8 (Partition |
| 7085-85-0 | | | | | | Coefficient) |
| Bis(2-hydroxy-3-tert-butyl-5- | 6,25 | | | | 20 °C | OECD Guideline 107 |
| methylphenyl)methane | | | | | | (Partition Coefficient (n- |
| 119-47-1 | | | | | | octanol / water), Shake |
| | | | | | | Flask Method) |
| Hydroquinone | 0,59 | | | | | EU Method A.8 (Partition |
| 123-31-9 | | | | | | Coefficient) |

12.5. Results of PBT and vPvB assessment

| Hazardous components | PBT/vPvB |
|----------------------|----------|
| CAS-No. | |

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| 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 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very |
| 123-31-9 | 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

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.

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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 (2010/75/EC)

< 3 %

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

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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://mymsds.henkel.com/mymsds/.470833..en.ANNEX_DE.15743123.0.DE.pdf

Alternatively they can be accessed on the internet site www.mymsds.henkel.com by entering number 470833.