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



SDS No.: 275741
V014.0
LOCTITE 5188
Revision: 08.06.2020
printing date: 24.09.2021
Replaces version from: 13.09.2019

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

**1.1. Product identifier**
LOCTITE 5188

**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
Adhesives
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. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| Toxic to reproduction | Category 2 |
| H361d Suspected of damaging the unborn child. | |
| Specific target organ toxicity - single exposure | Category 3 |
| H335 May cause respiratory irritation. | |
| Target organ: respiratory tract irritation | |
| Chronic hazards to the aquatic environment | Category 3 |
| H412 Harmful to aquatic life with long lasting effects. | |

**2.2. Label elements**

**Label elements (CLP):**

| | |
|---|---|
| **Hazard pictogram:** |  |
| **Contains** | 2-Hydroxyethyl methacrylate<br><br>2-Propenoic acid, 2-phenoxyethyl ester<br>Cumene hydroperoxide<br>Methacryloyloxyethyl succinate<br>Acetic acid, 2-phenylhydrazide<br>Phenol, ethoxylated, esters with acrylic acid<br><br>Hydroxypropyl methacrylate<br>Phenoxyethyl methacrylate |
| **Signal word:** | Warning |
| **Hazard statement:** | H315 Causes skin irritation.<br>H317 May cause an allergic skin reaction.<br>H319 Causes serious eye irritation.<br>H335 May cause respiratory irritation.<br>H361d Suspected of damaging the unborn child.<br>H412 Harmful to aquatic life with long lasting effects. |
| **Precautionary statement:** | "***" ***For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of contents/container in accordance with national regulation.*** |
| **Precautionary statement: Prevention** | P261 Avoid breathing vapors.<br>P273 Avoid release to the environment.<br>P280 Wear protective gloves/protective clothing. |
| **Precautionary statement: Response** | P302+P352 IF ON SKIN: Wash with plenty of soap and water.<br>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.<br>P337+P313 If eye irritation persists: Get medical advice/attention. |

### 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:**
Anaerobic 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 |
|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | 231-403-1<br>01-2119886505-27 | 10- 20 % | Aquatic Chronic 3<br>H412 |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | 212-782-2<br>01-2119490169-29 | 5- < 10 % | Skin Irrit. 2<br>H315<br>Skin Sens. 1<br>H317<br>Eye Irrit. 2<br>H319 |
| Phenoxyethyl methacrylate<br>10595-06-9 | 234-201-1<br>01-2120752383-55 | 5- < 10 % | Skin Sens. 1A<br>H317<br>Aquatic Chronic 2<br>H411 |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | 256-360-6<br>01-2119980532-35 | 5- < 10 % | Skin Sens. 1A<br>H317<br>Repr. 2<br>H361d<br>Aquatic Chronic 2<br>H411 |
| Cumene hydroperoxide<br>80-15-9 | 201-254-7<br>01-2119475796-19 | 1- < 3 % | Acute Tox. 4; Dermal<br>H312<br>STOT RE 2<br>H373<br>Acute Tox. 4; Oral<br>H302<br>Org. Perox. E<br>H242<br>Acute Tox. 3; Inhalation<br>H331<br>Aquatic Chronic 2<br>H411<br>Skin Corr. 1B<br>H314 |
| Acrylic acid<br>79-10-7 | 201-177-9<br>01-2119452449-31 | 1- < 3 % | STOT SE 3<br>H335<br>Aquatic Chronic 2<br>H411<br>Aquatic Acute 1<br>H400<br>Acute Tox. 4; Inhalation<br>H332<br>Acute Tox. 4; Oral<br>H302<br>Flam. Liq. 3<br>H226<br>Skin Corr. 1A<br>H314<br>Acute Tox. 4; Dermal<br>H312 |
| Methacryloyloxyethyl succinate<br>20882-04-6 | 244-096-4<br>01-2120137902-58 | 0,1- < 1 % | Skin Sens. 1<br>H317<br>Eye Dam. 1<br>H318 |
| Acetic acid, 2-phenylhydrazide<br>114-83-0 | 204-055-3 | 0,1- < 1 % | Acute Tox. 3; Oral<br>H301<br>Skin Irrit. 2<br>H315<br>Skin Sens. 1<br>H317<br>Eye Irrit. 2<br>H319<br>STOT SE 3; Inhalation<br>H335<br>Carc. 2<br>H351 |
| Phenol, ethoxylated, esters with acrylic acid<br>56641-05-5 | 500-133-9 | 0,1- < 1 % | Aquatic Chronic 2<br>H411<br>Skin Sens. 1<br>H317 |
| Hydroxypropyl methacrylate<br>27813-02-1 | 248-666-3<br>01-2119490226-37 | 0,1- < 1 % | Skin Sens. 1<br>H317<br>Eye Irrit. 2 |

| | | | |
|---|---|---|---|
| | | | H319 |
| methacrylic acid<br>79-41-4 | 201-204-4<br>01-2119463884-26 | 0,1- < 1 % | Acute Tox. 4; Oral<br>H302<br>Acute Tox. 3; Dermal<br>H311<br>Acute Tox. 4; Inhalation<br>H332<br>Skin Corr. 1A<br>H314<br>Eye Dam. 1<br>H318<br>STOT SE 3<br>H335 |
| 1,4-Naphthalenedione<br>130-15-4 | 204-977-6 | 0,01- < 0,1 % | Acute Tox. 3; Oral<br>H301<br>Skin Irrit. 2; Dermal<br>H315<br>Skin Sens. 1<br>H317<br>Eye Irrit. 2<br>H319<br>Acute Tox. 1; Inhalation<br>H330<br>STOT SE 3; Inhalation<br>H335<br>Aquatic Acute 1<br>H400<br>Aquatic Chronic 1<br>H410<br>M factor (Acute Aquat Tox): 10 M factor (Chron 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. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

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:**
Carbon dioxide, foam, powder

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

**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 (NOx) can be released.

**5.3. Advice for firefighters**
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**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**
Avoid skin and eye contact.
Ensure adequate ventilation.
Wear protective equipment.

**6.2. Environmental precautions**
Do not let product enter drains.

**6.3. Methods and material for containment and cleaning up**
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.
Dispose of contaminated material as waste according to Section 13.

**6.4. Reference to other sections**
See advice in section 8

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Use only in well-ventilated areas.
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

**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/m³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|---|---|---|---|---|
| Silane, dichlorodimethyl-, reaction products with silica<br>68611-44-9<br>[SILICA, AMORPHOUS, RESPIRABLE DUST] | | 2,4 | Time Weighted Average (TWA): | | EH40 WEL |
| Silane, dichlorodimethyl-, reaction products with silica<br>68611-44-9<br>[SILICA, AMORPHOUS, INHALABLE DUST] | | 6 | Time Weighted Average (TWA): | | EH40 WEL |
| Ethene, homopolymer<br>9002-88-4<br>[DUST, INHALABLE DUST] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Ethene, homopolymer<br>9002-88-4<br>[DUST, RESPIRABLE DUST] | | 4 | Time Weighted Average (TWA): | | EH40 WEL |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID (PROP-2-ENOIC ACID)] | 10 | 29 | Time Weighted Average (TWA): | Indicative | ECTLV |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID] | 20 | 59 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID] | 10 | 29 | Time Weighted Average (TWA): | | EH40 WEL |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID] | 40 | 143 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID] | 20 | 72 | 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 |
|---|---|---|---|---|---|
| Silane, dichlorodimethyl-, reaction products with silica<br>68611-44-9<br>[SILICA, AMORPHOUS, TOTAL INHALABLE DUST] | | 6 | Time Weighted Average (TWA): | | IR_OEL |
| Silane, dichlorodimethyl-, reaction products with silica<br>68611-44-9<br>[SILICA, AMORPHOUS, RESPIRABLE DUST] | | 2,4 | Time Weighted Average (TWA): | | IR_OEL |
| Ethene, homopolymer<br>9002-88-4<br>[DUSTS, NON-SPECIFIC, RESPIRABLE] | | 4 | Time Weighted Average (TWA): | | IR_OEL |
| Ethene, homopolymer<br>9002-88-4<br>[DUSTS, NON-SPECIFIC, TOTAL INHALABLE] | | 10 | Time Weighted Average (TWA): | | IR_OEL |
| Acrylic acid | 10 | 29 | Time Weighted Average | Indicative | ECTLV |

| | | | | | |
|---|---|---|---|---|---|
| 79-10-7<br>[ACRYLIC ACID (PROP-2-ENOIC ACID)] | | | (TWA): | | |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID] | 20 | 59 | Short Term Exposure Limit (STEL): | 1 minute<br>Indicative OELV | IR_OEL |
| Acrylic acid<br>79-10-7<br>[ACRYLIC ACID] | 10 | 29 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID] | 20 | 70 | Time Weighted Average (TWA): | | IR_OEL |
| Methacrylic acid<br>79-41-4<br>[METHACRYLIC ACID] | 40 | 140 | Short Term Exposure Limit (STEL): | 15 minutes | IR_OEL |

**Predicted No-Effect Concentration (PNEC):**

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | mg/l | ppm | mg/kg | others | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (freshwater) | | 4,66 µg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | Soil | | | | 0,118 mg/kg | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sewage treatment plant (STP) | | 2,45 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sediment (freshwater) | | | | 0,604 mg/kg | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (intermittent releases) | | 0,0179 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (marine water) | | 0,000466 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sediment (marine water) | | | | 0,06 mg/kg | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | aqua (freshwater) | | 0,482 mg/l | | | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | aqua (marine water) | | 0,482 mg/l | | | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | aqua (intermittent releases) | | 1 mg/l | | | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | sediment (freshwater) | | | | 3,79 mg/kg | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | sediment (marine water) | | | | 3,79 mg/kg | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | Soil | | | | 0,476 mg/kg | | |
| 2-Hydroxyethyl methacrylate 868-77-9 | Predator | | | | | | no potential for bioaccumulation |
| 2-Phenoxyethyl methacrylate 10595-06-9 | aqua (freshwater) | | 0,0142 mg/l | | | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | aqua (intermittent releases) | | 0,012 mg/l | | | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | aqua (marine water) | | 0,00142 mg/l | | | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | sediment (freshwater) | | | | 0,665 mg/kg | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | sediment (marine water) | | | | 0,067 mg/kg | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | sewage treatment plant (STP) | | 1,77 mg/l | | | | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | Soil | | | | 0,125 mg/kg | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | aqua (freshwater) | | 0,002 mg/l | | | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | Soil | | | | 0,006 mg/kg | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | sewage treatment plant (STP) | | 1,77 mg/l | | | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | aqua (intermittent releases) | | 0,0121 mg/l | | | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | aqua (marine water) | | 0,0002 mg/l | | | | |
| 2-Phenoxyethyl acrylate 48145-04-6 | sediment (marine water) | | | | 0,002 mg/kg | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2-Phenoxyethyl acrylate<br>48145-04-6 | sediment (freshwater) | | | | 0,02 mg/kg | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | aqua (freshwater) | | 0,0031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | aqua (marine water) | | 0,00031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | aqua (intermittent releases) | | 0,031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | Sewage treatment plant | | 0,35 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | sediment (freshwater) | | | | 0,023 mg/kg | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | sediment (marine water) | | | | 0,0023 mg/kg | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide<br>80-15-9 | Soil | | | | 0,0029 mg/kg | | |
| Acrylic acid<br>79-10-7 | aqua (freshwater) | | 0,003 mg/l | | | | |
| Acrylic acid<br>79-10-7 | aqua (marine water) | | 0,0003 mg/l | | | | |
| Acrylic acid<br>79-10-7 | aqua (intermittent releases) | | 0,0013 mg/l | | | | |
| Acrylic acid<br>79-10-7 | sewage treatment plant (STP) | | 0,9 mg/l | | | | |
| Acrylic acid<br>79-10-7 | sediment (freshwater) | | | | 0,0236 mg/kg | | |
| Acrylic acid<br>79-10-7 | sediment (marine water) | | | | 0,00236 mg/kg | | |
| Acrylic acid<br>79-10-7 | Soil | | | | 1 mg/kg | | |
| Acrylic acid<br>79-10-7 | oral | | | | 0,03 g/kg | | |
| Acrylic acid<br>79-10-7 | Predator | | | | 0,03 g/kg | | |
| Acrylic acid<br>79-10-7 | Air | | | | | | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | aqua (freshwater) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | aqua (marine water) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | aqua (intermittent releases) | | 0,972 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | sediment (freshwater) | | | | 6,28 mg/kg | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | sediment (marine water) | | | | 6,28 mg/kg | | |
| Methacrylic acid, monoester with propane-1,2-diol<br>27813-02-1 | Soil | | | | 0,727 mg/kg | | |
| methacrylic acid<br>79-41-4 | aqua (freshwater) | | 0,82 mg/l | | | | |
| methacrylic acid<br>79-41-4 | aqua (marine water) | | 0,82 mg/l | | | | |
| methacrylic acid<br>79-41-4 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| methacrylic acid<br>79-41-4 | aqua (intermittent releases) | | 0,82 mg/l | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| methacrylic acid<br>79-41-4 | Soil | | | | 1,2 mg/kg | | |

**Derived No-Effect Level (DNEL):**

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|---|---|---|---|---|---|
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | Workers | dermal | Long term exposure - systemic effects | | 1,04 mg/kg | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | General population | dermal | Long term exposure - systemic effects | | 0,625 mg/kg | |
| 2-Hydroxyethyl methacrylate 868-77-9 | Workers | dermal | Long term exposure - systemic effects | | 1,3 mg/kg | no potential for bioaccumulation |
| 2-Hydroxyethyl methacrylate 868-77-9 | Workers | Inhalation | Long term exposure - systemic effects | | 4,9 mg/m3 | no potential for bioaccumulation |
| 2-Hydroxyethyl methacrylate 868-77-9 | General population | dermal | Long term exposure - systemic effects | | 0,83 mg/kg | no potential for bioaccumulation |
| 2-Hydroxyethyl methacrylate 868-77-9 | General population | Inhalation | Long term exposure - systemic effects | | 2,9 mg/m3 | no potential for bioaccumulation |
| 2-Hydroxyethyl methacrylate 868-77-9 | General population | oral | Long term exposure - systemic effects | | 0,83 mg/kg | no potential for bioaccumulation |
| 2-Phenoxyethyl methacrylate 10595-06-9 | Workers | inhalation | Long term exposure - systemic effects | | 12 mg/m3 | |
| 2-Phenoxyethyl methacrylate 10595-06-9 | Workers | dermal | Long term exposure - systemic effects | | 3,5 mg/kg | |
| 2-Phenoxyethyl acrylate 48145-04-6 | Workers | inhalation | Long term exposure - systemic effects | | 12 mg/m3 | |
| 2-Phenoxyethyl acrylate 48145-04-6 | Workers | inhalation | Long term exposure - local effects | | 77 mg/m3 | |
| 2-Phenoxyethyl acrylate 48145-04-6 | Workers | dermal | Long term exposure - systemic effects | | 3,5 mg/kg | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Workers | inhalation | Long term exposure - systemic effects | | 6 mg/m3 | |
| Acrylic acid 79-10-7 | Workers | inhalation | Long term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | inhalation | Acute/short term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Acute/short term exposure - local effects | | 3,6 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Long term exposure - local effects | | 3,6 mg/m3 | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | dermal | Long term exposure - systemic effects | | 4,2 mg/kg | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | Inhalation | Long term exposure - systemic effects | | 14,7 mg/m3 | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | General population | dermal | Long term exposure - systemic effects | | 2,5 mg/kg | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | General population | Inhalation | Long term exposure - systemic effects | | 8,8 mg/m3 | |
| Methacrylic acid, monoester with propane-1,2-diol | General population | oral | Long term exposure - | | 2,5 mg/kg | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 27813-02-1 | | | systemic effects | | | |
| methacrylic acid<br>79-41-4 | Workers | Inhalation | Long term exposure - local effects | | 88 mg/m3 | |
| methacrylic acid<br>79-41-4 | Workers | Inhalation | Long term exposure - systemic effects | | 29,6 mg/m3 | |
| methacrylic acid<br>79-41-4 | Workers | dermal | Long term exposure - systemic effects | | 4,25 mg/kg | |
| methacrylic acid<br>79-41-4 | General population | Inhalation | Long term exposure - local effects | | 6,55 mg/m3 | |
| methacrylic acid<br>79-41-4 | General population | Inhalation | Long term exposure - systemic effects | | 6,3 mg/m3 | |
| methacrylic acid<br>79-41-4 | General population | dermal | Long term exposure - systemic effects | | 2,55 mg/kg | |

**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.

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<br>viscous, liquid<br>red |
| Odor | mild |
| Odour threshold | No data available / Not applicable |
| pH | Not applicable |
| Melting point | No data available / Not applicable |
| Solidification temperature | No data available / Not applicable |
| Initial boiling point | No data available / Not applicable |
| Flash point | > 110 °C (> 230 °F); Setaflash Closed Cup |
| Evaporation rate | No data available / Not applicable |
| Flammability | No data available / Not applicable |
| Explosive limits | No data available / Not applicable |
| Vapour pressure | Not available. |
| Relative vapour density: | No data available / Not applicable |
| Density | No data available / Not applicable |
| Bulk density | No data available / Not applicable |
| Solubility | No data available / Not applicable |
| Solubility (qualitative)<br>(Solvent: Water) | Insoluble |
| Solubility (qualitative)<br>(Solvent: Acetone) | Soluble |
| 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**
Strong oxidizing agents.

**10.2. Chemical stability**
Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**
See section reactivity

**10.4. Conditions to avoid**
No decomposition if used according to specifications.

**10.5. Incompatible materials**
See section reactivity.

**10.6. Hazardous decomposition products**
In case of fire toxic gases can be released.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

**Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | LD50 | 3.160 mg/kg | rat | not specified |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | LD50 | > 5.000 mg/kg | rat | not specified |
| Phenoxyethyl methacrylate<br>10595-06-9 | LD50 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | LD50 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Cumene hydroperoxide<br>80-15-9 | LD50 | 382 mg/kg | rat | other guideline: |
| Acrylic acid<br>79-10-7 | LD50 | 1.500 mg/kg | rat | BASF Test |
| Methacryloyloxyethyl succinate<br>20882-04-6 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 423 (Acute Oral toxicity) |
| Acetic acid, 2-phenylhydrazide<br>114-83-0 | LD50 | 270 mg/kg | rat | not specified |
| Hydroxypropyl methacrylate<br>27813-02-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| methacrylic acid<br>79-41-4 | LD50 | 1.320 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 1,4-Naphthalenedione<br>130-15-4 | LD50 | 190 mg/kg | rat | not specified |

**Acute dermal toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | LD50 | > 3.000 mg/kg | rabbit | not specified |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| Phenoxyethyl methacrylate<br>10595-06-9 | LD50 | > 2.000 mg/kg | rat | EU Method B.3 (Acute Toxicity (Dermal) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | LD50 | > 2.000 mg/kg | rat | EU Method B.3 (Acute Toxicity (Dermal) |
| Cumene hydroperoxide<br>80-15-9 | LD50 | 530 - 1.060 mg/kg | rat | other guideline: |
| Cumene hydroperoxide<br>80-15-9 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| Acrylic acid<br>79-10-7 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| Hydroxypropyl methacrylate<br>27813-02-1 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| methacrylic acid<br>79-41-4 | LD50 | 500 - 1.000 mg/kg | rabbit | Dermal Toxicity Screening |

**Acute inhalative toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|---|---|---|---|---|---|---|
| Acrylic acid<br>79-10-7 | LC50 | > 5,1 mg/l | vapour | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |
| Acrylic acid<br>79-10-7 | Acute toxicity estimate (ATE) | 11 mg/l | vapour | | | Expert judgement |
| methacrylic acid<br>79-41-4 | LC50 | > 3,6 mg/l | dust/mist | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | mildly irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Cumene hydroperoxide<br>80-15-9 | corrosive | | rabbit | Draize Test |
| Acrylic acid<br>79-10-7 | highly corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | not irritating | 0,25 h | Human, EPISKIIN™ Reconstituted Human Epidermis model | OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | Not Classified | 4 h | Human, EPISKIIN™ Reconstituted Human Epidermis model | OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method) |
| Hydroxypropyl methacrylate<br>27813-02-1 | not irritating | 24 h | rabbit | Draize Test |
| methacrylic acid<br>79-41-4 | corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| 2-Hydroxyethyl methacrylate<br>868-77-9 | irritating | | rabbit | Draize Test |
| Acrylic acid<br>79-10-7 | corrosive | 21 d | rabbit | BASF Test |
| Methacryloyloxyethyl succinate<br>20882-04-6 | Category I | 10 min | Bovine, cornea, in vitro test | OECD Guideline 437 (BCOP) |
| Hydroxypropyl methacrylate<br>27813-02-1 | irritating | | rabbit | Draize Test |
| methacrylic acid<br>79-41-4 | corrosive | | rabbit | Draize Test |

**Respiratory or skin sensitization:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Test type | Species | Method |
|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Phenoxyethyl methacrylate<br>10595-06-9 | sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| Acrylic acid<br>79-10-7 | not sensitising | Skin painting test | guinea pig | not specified |
| methacrylic acid<br>79-41-4 | not sensitising | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate 7534-94-3 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Isobornyl methacrylate 7534-94-3 | negative | | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Isobornyl methacrylate 7534-94-3 | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 2-Hydroxyethyl methacrylate 868-77-9 | positive | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay) |
| 2-Propenoic acid, 2-phenoxyethyl ester 48145-04-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 2-Propenoic acid, 2-phenoxyethyl ester 48145-04-6 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 2-Propenoic acid, 2-phenoxyethyl ester 48145-04-6 | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Cumene hydroperoxide 80-15-9 | positive | bacterial reverse mutation assay (e.g Ames test) | without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Acrylic acid 79-10-7 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Acrylic acid 79-10-7 | negative | DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro | without | | OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro) |
| Methacryloyloxyethyl succinate 20882-04-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Hydroxypropyl methacrylate 27813-02-1 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Hydroxypropyl methacrylate 27813-02-1 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| methacrylic acid 79-41-4 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |

**Carcinogenicity**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|---|---|---|---|---|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | | inhalation | 102 weeks 6 hours/day, 5 days/week | rat | female | OECD Guideline 451 (Carcinogenicity Studies) |
| Acrylic acid 79-10-7 | | oral: drinking water | 26 (males) - 28 (females) month continuously | rat | male/female | OECD Guideline 451 (Carcinogenicity Studies) |
| Hydroxypropyl methacrylate 27813-02-1 | not carcinogenic | inhalation | 2 years (102 weeks) 6 hours/day, 5 days/week | rat | male | OECD Guideline 451 (Carcinogenicity Studies) |
| methacrylic acid 79-41-4 | not carcinogenic | inhalation | 2 y | mouse | male/female | OECD Guideline 451 (Carcinogenicity Studies) |

**Reproductive toxicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate 7534-94-3 | NOAEL P 25 mg/kg<br><br>NOAEL F1 500 mg/kg | | oral: gavage | rat | OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOAEL P >= 1.000 mg/kg<br><br>NOAEL F1 >= 1.000 mg/kg | screening | oral: gavage | rat | OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422) |
| Acrylic acid 79-10-7 | NOAEL P 240 mg/kg<br>NOAEL F2 53 mg/l | | oral: drinking water | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL P 400 mg/kg | two-generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| methacrylic acid 79-41-4 | NOAEL P 50 mg/kg<br><br>NOAEL F1 400 mg/kg<br><br>NOAEL F2 400 mg/kg | Two generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|---|---|---|---|---|
| 2-Hydroxyethyl methacrylate<br>868-77-9 | NOAEL 100 mg/kg | oral: gavage | once daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Cumene hydroperoxide<br>80-15-9 | | inhalation: aerosol | 6 h/d<br>5 d/w | rat | not specified |
| Hydroxypropyl methacrylate<br>27813-02-1 | NOAEL 300 mg/kg | oral: gavage | | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| methacrylic acid<br>79-41-4 | | inhalation | 90 d<br>6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |

**Aspiration hazard:**

No data available.

## SECTION 12: Ecological information

**General ecological information:**
Do not empty into drains / surface water / ground water.

**12.1. Toxicity**

**Toxicity (Fish):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | LC50 | 1,79 mg/l | 96 h | Danio rerio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | LC50 | > 100 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Phenoxyethyl methacrylate<br>10595-06-9 | LC50 | 10 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | LC50 | 10 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Cumene hydroperoxide<br>80-15-9 | LC50 | 3,9 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Acrylic acid<br>79-10-7 | LC50 | 27 mg/l | 96 h | Salmo gairdneri (new name: Oncorhynchus mykiss) | EPA OTS 797.1400 (Fish Acute Toxicity Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | LC50 | 493 mg/l | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| methacrylic acid<br>79-41-4 | LC50 | 85 mg/l | 96 h | Salmo gairdneri (new name: Oncorhynchus mykiss) | EPA OTS 797.1400 (Fish Acute Toxicity Test) |

**Toxicity (Daphnia):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | EC50 | > 2,57 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | EC50 | 380 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Phenoxyethyl methacrylate<br>10595-06-9 | EC50 | 1,21 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | EC50 | 1,21 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Cumene hydroperoxide<br>80-15-9 | EC50 | 18 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Acrylic acid<br>79-10-7 | EC50 | 95 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | EC50 | > 515,4 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | EC50 | > 143 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| methacrylic acid<br>79-41-4 | EC50 | > 130 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) |

**Chronic toxicity to aquatic invertebrates**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | NOEC | 0,233 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | NOEC | 24,1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Acrylic acid<br>79-10-7 | NOEC | 19 mg/l | 21 d | Daphnia magna | EPA OTS 797.1330 (Daphnid Chronic Toxicity Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | NOEC | 45,2 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

**Toxicity (Algae):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | EC50 | 2,66 mg/l | 96 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Isobornyl methacrylate<br>7534-94-3 | NOEC | 0,254 mg/l | 96 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | EC50 | 836 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | NOEC | 400 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Phenoxyethyl methacrylate<br>10595-06-9 | EC50 | 4,4 mg/l | 72 h | Desmodesmus subspicatus | ISO 8692 (Water Quality) |
| Phenoxyethyl methacrylate<br>10595-06-9 | EC10 | 0,71 mg/l | 72 h | Desmodesmus subspicatus | ISO 8692 (Water Quality) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | EC10 | 0,71 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | ISO 8692 (Water Quality) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | EC50 | 4,4 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | ISO 8692 (Water Quality) |
| Cumene hydroperoxide<br>80-15-9 | ErC50 | 3,1 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acrylic acid<br>79-10-7 | EC10 | 0,03 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | EU Method C.3 (Algal Inhibition test) |
| Acrylic acid<br>79-10-7 | EC50 | 0,13 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | EU Method C.3 (Algal Inhibition test) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | EC50 | > 312 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | NOEC | 21,1 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | EC50 | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | NOEC | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid<br>79-41-4 | NOEC | 8,2 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid<br>79-41-4 | EC50 | 45 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 1,4-Naphthalenedione<br>130-15-4 | EC50 | 0,011 mg/l | 72 h | Dunaliella bioculata | OECD Guideline 201 (Alga, Growth Inhibition Test) |

**Toxicity to microorganisms**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| 2-Hydroxyethyl methacrylate<br>868-77-9 | EC0 | > 3.000 mg/l | 16 h | Pseudomonas fluorescens | other guideline: |
| Phenoxyethyl methacrylate<br>10595-06-9 | EC50 | 177 mg/l | 3 h | activated sludge | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Cumene hydroperoxide<br>80-15-9 | EC10 | 70 mg/l | 30 min | | not specified |
| Acrylic acid<br>79-10-7 | EC20 | 900 mg/l | 30 min | activated sludge, domestic | ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge) |
| Hydroxypropyl methacrylate<br>27813-02-1 | EC10 | 1.140 mg/l | 16 h | | not specified |
| methacrylic acid<br>79-41-4 | EC10 | 100 mg/l | 17 h | | not specified |

**12.2. Persistence and degradability**

The product is not biodegradable.

| Hazardous substances<br>CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | readily biodegradable | aerobic | 70 % | 28 d | OECD Guideline 310 (Ready Biodegradability CO2 in Sealed Vessels (Headspace Test) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Phenoxyethyl methacrylate<br>10595-06-9 | not readily biodegradable. | aerobic | 22,3 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | | aerobic | 22,3 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Cumene hydroperoxide<br>80-15-9 | | no data | 0 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Acrylic acid<br>79-10-7 | inherently biodegradable | aerobic | 100 % | 28 d | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| Acrylic acid<br>79-10-7 | readily biodegradable | aerobic | 81 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | readily biodegradable, but failing 10-day window | aerobic | 80 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Hydroxypropyl methacrylate<br>27813-02-1 | readily biodegradable | aerobic | 94,2 % | 28 d | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| methacrylic acid<br>79-41-4 | inherently biodegradable | aerobic | 100 % | 14 d | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| methacrylic acid<br>79-41-4 | readily biodegradable | aerobic | 86 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 1,4-Naphthalenedione<br>130-15-4 | not readily biodegradable. | no data | 0 - 60 % | | OECD 301 A - F |

**12.3. Bioaccumulative potential**

| Hazardous substances<br>CAS-No. | Bioconcentration factor (BCF) | Exposure time | Temperature | Species | Method |
|---|---|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | 37 | 56 day | 24 °C | Danio rerio | OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test) |
| Cumene hydroperoxide<br>80-15-9 | 9,1 | | | calculation | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |
| Acrylic acid<br>79-10-7 | 3,16 | | | | QSAR (Quantitative Structure Activity Relationship) |

**12.4. Mobility in soil**

Cured adhesives are immobile.

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method |
|---|---|---|---|
| Isobornyl methacrylate<br>7534-94-3 | 5,09 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | 0,42 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Phenoxyethyl methacrylate<br>10595-06-9 | 3,137 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | 2,58 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Cumene hydroperoxide<br>80-15-9 | 2,16 | | not specified |
| Acrylic acid<br>79-10-7 | 0,46 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Methacryloyloxyethyl succinate<br>20882-04-6 | 0,783 | 23 °C | EU Method A.8 (Partition Coefficient) |
| Acetic acid, 2-phenylhydrazide<br>114-83-0 | 0,74 | | not specified |
| Hydroxypropyl methacrylate<br>27813-02-1 | 0,97 | 20 °C | not specified |
| methacrylic acid<br>79-41-4 | 0,93 | 22 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| 1,4-Naphthalenedione<br>130-15-4 | 1,71 | | not specified |

**12.5. Results of PBT and vPvB assessment**

| Hazardous substances<br>CAS-No. | PBT/ vPvB |
|---|---|
| Isobornyl methacrylate<br>7534-94-3 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2-Hydroxyethyl methacrylate<br>868-77-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Phenoxyethyl methacrylate<br>10595-06-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2-Propenoic acid, 2-phenoxyethyl ester<br>48145-04-6 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Cumene hydroperoxide<br>80-15-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Acrylic acid<br>79-10-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Hydroxypropyl methacrylate<br>27813-02-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| methacrylic acid<br>79-41-4 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 1,4-Naphthalenedione<br>130-15-4 | 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:
Dispose of in accordance with local and national regulations.

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**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.2. UN proper shipping name**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.3. Transport hazard class(es)**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.4. Packing group**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.5. Environmental hazards**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**14.6. Special precautions for user**

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

**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) < 3,00 %

**15.2. Chemical safety assessment**

A chemical safety assessment has not 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:

H226 Flammable liquid and vapor.
H242 Heating may cause a fire.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

**Further information:**

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel´s Product Safety and Regulatory Affairs Department (ua-productsafety.de@henkel.com) prior to export to other territories than the European Union.

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.

Dear Customer,
Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).

**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 2-Hydroxyethyl methacrylate can be downloaded under the following link:
http://mymsds.de.henkelgroup.net/mymsds/.643691..en.ANNEX_DE.34677269.0.DE.pdf
Alternatively they can be accessed on the internet site www.mymsds.henkel.com by entering number 643691