



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

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LOCTITE 2701

SDS No. : 173107
V009.1

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

1.1. Product identifier

LOCTITE 2701
UFI: D2J5-GX9E-520A-M1G8

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

Intended use:
Anaerobic Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

| | |
|---|------------|
| Serious eye irritation | Category 2 |
| H319 Causes serious eye irritation. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| 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** Hydroxypropyl methacrylate

2,2'-Ethylenedioxydiethyl dimethacrylate

Methacryloyloxyethyl succinate
Cumene hydroperoxide
Acetic acid, 2-phenylhydrazide
2-Hydroxyethyl methacrylate

methyl methacrylate

Propylene glycol dimethacrylate

Signal word: Warning**Hazard statement:** H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
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:** P261 Avoid breathing vapors.
Prevention P273 Avoid release to the environment.
P280 Wear protective gloves.**Precautionary statement:** P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
Response P337+P313 If eye irritation persists: Get medical advice/attention.**2.3. Other hazards**

None if used properly.

Non corrosive to eyes according to test method OECD 438 or based on analogy to similar products tested.

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

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

| Hazardous components CAS-No. EC Number REACH-Reg. No. | Concentration | Classification | Specific Conc. Limits, M-factors and ATEs | Add. Information |
|---|---------------|---|--|------------------|
| Hydroxypropyl methacrylate 27813-02-1 248-666-3 01-2119490226-37 | 25- < 50 % | Skin Sens. 1, H317 Eye Irrit. 2, H319 | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 203-652-6 01-2119969287-21 | 5- < 10 % | Skin Sens. 1B, H317 | dermal:ATE = > 5.000 mg/kg inhalation:ATE = 28,17 mg/l;dust/mist | |
| Methacryloyloxyethyl succinate 20882-04-6 244-096-4 01-2120137902-58 | 1- < 3 % | Skin Sens. 1, H317 Eye Dam. 1, H318 | | |
| Cumene hydroperoxide 80-15-9 201-254-7 01-2119475796-19 | 1- < 3 % | STOT RE 2, H373 Skin Corr. 1B, H314 Acute Tox. 2, Inhalation, H330 Aquatic Chronic 2, H411 Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Org. Perox. E, H242 STOT SE 3, H335 | Eye Irrit. 2; H319; C 1 - < 3 % Skin Irrit. 2; H315; C 3 - < 10 % Eye Dam. 1; H318; C 3 - < 10 % STOT SE 3; H335; C >= 1 % Skin Corr. 1B; H314; C >= 10 % ===== dermal:ATE = 1.100 mg/kg | |
| methacrylic acid 79-41-4 201-204-4 01-2119463884-26 | 0,1- < 1 % | Acute Tox. 4, Oral, H302 Acute Tox. 3, Dermal, H311 Acute Tox. 4, Inhalation, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 | STOT SE 3; H335; C >= 1 % ===== dermal:ATE = 500 mg/kg inhalation:ATE = 3,19 mg/l;dust/mist | |
| Acetic acid, 2-phenylhydrazide 114-83-0 204-055-3 01-2120951382-56 | 0,1- < 1 % | Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, Oral, H302 Skin Sens. 1, H317 Carc. 2, H351 | M acute = 1 M chronic = 1 | |
| 2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29 | 0,1- < 1 % | Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 | | |
| methyl methacrylate 80-62-6 201-297-1 01-2119452498-28 | 0,1- < 1 % | Flam. Liq. 2, H225 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 | | EU OEL |
| Propylene glycol dimethacrylate 7559-82-2 | 0,1- < 1 % | STOT SE 3, H335 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 | dermal:ATE = > 5.000 mg/kg | |

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

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: Rash, Urticaria.

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

EYE: Irritation, conjunctivitis.

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

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 (NO_x) 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 contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
Keep away from sources of ignition.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.
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.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Refer to Technical Data Sheet.

7.3. Specific end use(s)

Anaerobic Adhesive

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

Valid for
Germany

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|-------------------------------------|--|-----------------|
| Methacrylic acid 79-41-4 | 50 | 180 | Exposure limit(s): | 2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Methacrylic acid 79-41-4 | | | Short Term Exposure Classification: | Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages. | TRGS 900 |
| Methyl methacrylate 80-62-6 | 50 | 210 | Exposure limit(s): | 2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7). | TRGS 900 |
| Methyl methacrylate 80-62-6 | | | Short Term Exposure Classification: | Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages. | TRGS 900 |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 100 | | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 50 | | Time Weighted Average (TWA): | Indicative | ECTLV |

Predicted No-Effect Concentration (PNEC):

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|------------------------------|-----------------|--------------|-----|--------------|--------|----------------------------------|
| | | | mg/l | ppm | mg/kg | others | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | aqua (freshwater) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | aqua (marine water) | | 0,904 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | aqua (intermittent releases) | | 0,972 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | sediment (freshwater) | | | | 6,28 mg/kg | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | sediment (marine water) | | | | 6,28 mg/kg | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Soil | | | | 0,727 mg/kg | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Marine water - intermittent | | 0,972 mg/l | | | | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Air | | | | | | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Predator | | | | | | no potential for bioaccumulation |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | aqua (freshwater) | | 0,164 mg/l | | | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | aqua (marine water) | | 0,0164 mg/l | | | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | aqua (intermittent releases) | | 0,164 mg/l | | | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | sediment (freshwater) | | | | 1,85 mg/kg | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | sediment (marine water) | | | | 0,185 mg/kg | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Soil | | | | 0,274 mg/kg | | |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Air | | | | | | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Predator | | | | | | no potential for bioaccumulation |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (freshwater) | | 0,0031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (intermittent releases) | | 0,031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (marine water) | | 0,00031 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sewage treatment plant (STP) | | 0,35 mg/l | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sediment (freshwater) | | | | 0,023 mg/kg | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | sediment (marine water) | | | | 0,0023 mg/kg | | |

| | | | | | | |
|---|------------------------------|--|------------|--------------|--|----------------------------------|
| 80-15-9 | | | | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Soil | | | 0,0029 mg/kg | | |
| methacrylic acid 79-41-4 | aqua (freshwater) | | 0,82 mg/l | | | |
| methacrylic acid 79-41-4 | Freshwater - intermittent | | 0,45 mg/l | | | |
| methacrylic acid 79-41-4 | aqua (marine water) | | 0,082 mg/l | | | |
| methacrylic acid 79-41-4 | sewage treatment plant (STP) | | 100 mg/l | | | |
| methacrylic acid 79-41-4 | sediment (freshwater) | | | 3,09 mg/kg | | |
| methacrylic acid 79-41-4 | sediment (marine water) | | | 0,309 mg/kg | | |
| methacrylic acid 79-41-4 | Soil | | | 0,137 mg/kg | | |
| methacrylic acid 79-41-4 | Predator | | | | | no potential for bioaccumulation |
| 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-Hydroxyethyl methacrylate 868-77-9 | Marine water - intermittent | | 1 mg/l | | | |
| methyl methacrylate 80-62-6 | aqua (freshwater) | | 0,94 mg/l | | | |
| methyl methacrylate 80-62-6 | aqua (marine water) | | 0,94 mg/l | | | |
| methyl methacrylate 80-62-6 | aqua (intermittent releases) | | 0,94 mg/l | | | |
| methyl methacrylate 80-62-6 | sewage treatment plant (STP) | | 10 mg/l | | | |
| methyl methacrylate 80-62-6 | sediment (freshwater) | | | 5,74 mg/kg | | |
| methyl methacrylate 80-62-6 | Soil | | | 1,47 mg/kg | | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|--------------------|-------------------|---------------------------------------|---------------|-------------|----------------------------------|
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | dermal | Long term exposure - systemic effects | | 4,2 mg/kg | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | Inhalation | Long term exposure - systemic effects | | 14,7 mg/m3 | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | General population | dermal | Long term exposure - systemic effects | | 2,5 mg/kg | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | General population | Inhalation | Long term exposure - systemic effects | | 8,8 mg/m3 | no hazard identified |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | General population | oral | Long term exposure - systemic effects | | 2,5 mg/kg | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Workers | inhalation | Long term exposure - systemic effects | | 48,5 mg/m3 | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Workers | dermal | Long term exposure - systemic effects | | 13,9 mg/kg | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | General population | inhalation | Long term exposure - systemic effects | | 14,5 mg/m3 | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | General population | dermal | Long term exposure - systemic effects | | 8,33 mg/kg | no hazard identified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | General population | oral | Long term exposure - systemic effects | | 8,33 mg/kg | no hazard identified |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Workers | inhalation | Long term exposure - systemic effects | | 6 mg/m3 | |
| methacrylic acid 79-41-4 | Workers | Inhalation | Long term exposure - local effects | | 88 mg/m3 | no potential for bioaccumulation |
| methacrylic acid 79-41-4 | Workers | Inhalation | Long term exposure - systemic effects | | 29,6 mg/m3 | no potential for bioaccumulation |
| methacrylic acid 79-41-4 | Workers | dermal | Long term exposure - systemic effects | | 4,25 mg/kg | no potential for bioaccumulation |
| methacrylic acid 79-41-4 | General population | Inhalation | Long term exposure - local effects | | 6,55 mg/m3 | no potential for bioaccumulation |
| methacrylic acid 79-41-4 | General population | Inhalation | Long term exposure - systemic effects | | 6,3 mg/m3 | no potential for bioaccumulation |
| methacrylic acid 79-41-4 | General population | dermal | Long term exposure - systemic effects | | 2,55 mg/kg | no potential for bioaccumulation |
| 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 |
| methyl methacrylate 80-62-6 | Workers | Inhalation | Long term exposure - | | 348,4 mg/m3 | |

| | | | systemic effects | | | |
|--------------------------------|--------------------|------------|---|--|-------------|--|
| methyl methacrylate 80-62-6 | Workers | Inhalation | Long term exposure - local effects | | 208 mg/m3 | |
| methyl methacrylate 80-62-6 | Workers | inhalation | Acute/short term exposure - local effects | | 416 mg/m3 | |
| methyl methacrylate 80-62-6 | Workers | dermal | Long term exposure - systemic effects | | 13,67 mg/kg | |
| methyl methacrylate 80-62-6 | Workers | dermal | Long term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | Workers | dermal | Acute/short term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | General population | Inhalation | Long term exposure - systemic effects | | 74,3 mg/m3 | |
| methyl methacrylate 80-62-6 | General population | Inhalation | Long term exposure - local effects | | 104 mg/m3 | |
| methyl methacrylate 80-62-6 | General population | inhalation | Acute/short term exposure - local effects | | 208 mg/m3 | |
| methyl methacrylate 80-62-6 | General population | dermal | Long term exposure - systemic effects | | 8,2 mg/kg | |
| methyl methacrylate 80-62-6 | General population | dermal | Long term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | General population | dermal | Acute/short term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | General population | oral | Long term exposure - systemic effects | | | |

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**

| | |
|---|---|
| Delivery form | liquid |
| Colour | Green |
| Odor | Mild |
| Physical state | liquid |
| Melting point | Not applicable, Product is a liquid |
| Solidification temperature | < -30 °C (< -22 °F) |
| Initial boiling point | > 150 °C (> 302 °F)None |
| Flammability | The product is not flammable. |
| Explosive limits | Not applicable, The product is not flammable. |
| Flash point | > 100 °C (> 212 °F) |
| Auto-ignition temperature | Not applicable, The product is not flammable. |
| Decomposition temperature | Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use |
| pH | Product is non-polar/aprotic., Not applicable |
| Viscosity (kinematic) (40 °C (104 °F);) | > 20,5 mm ² /s |
| Solubility (qualitative) (Solvent: Water) | Partially soluble |
| Solubility (qualitative) (Solvent: Acetone) | Miscible |
| Solubility (qualitative) (20 °C (68 °F); Solvent: Water) | Slight |
| Partition coefficient: n-octanol/water | Not applicable |
| Vapour pressure (20 °C (68 °F)) | Mixture |
| Density (20 °C (68 °F)) | < 0,13 mbar |
| Relative vapour density: (20 °C) | 1,1 g/cm ³ None |
| Particle characteristics | > 1 |
| | Not applicable |
| | Product is a liquid |

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reacts with strong oxidants.
Acids.
Reducing agents.
Strong bases.

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

carbon oxides.

Hydrocarbons

nitrogen oxides

Rapid polymerisation may generate excessive heat and pressure.

SECTION 11: Toxicological information**General toxicological information:**

Prolonged or repeated contact may cause skin irritation.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute oral toxicity:**

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|---|---------------|---------------|---------|---|
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | LD50 | 10.837 mg/kg | rat | not specified |
| Methacryloyloxyethyl succinate 20882-04-6 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 423 (Acute Oral toxicity) |
| Cumene hydroperoxide 80-15-9 | LD50 | 382 mg/kg | rat | other guideline: |
| methacrylic acid 79-41-4 | LD50 | 1.320 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | LD50 | 310 mg/kg | rat | OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | 5.564 mg/kg | rat | FDA Guideline |
| methyl methacrylate 80-62-6 | LD50 | 9.400 mg/kg | rat | not specified |
| Propylene glycol dimethacrylate 7559-82-2 | LD50 | 8.700 mg/kg | rat | FDA Guideline |

Acute dermal toxicity:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|---|--|----------------------|---------|--|
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Acute toxicity estimate (ATE) | > 5.000 mg/kg | | Expert judgement |
| Cumene hydroperoxide 80-15-9 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| methacrylic acid 79-41-4 | LD50 | 500 - 1.000 mg/kg | rabbit | Dermal Toxicity Screening |
| methacrylic acid 79-41-4 | Acute toxicity estimate (ATE) | 500 mg/kg | | Expert judgement |
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| methyl methacrylate 80-62-6 | LD50 | > 5.000 mg/kg | rabbit | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| Propylene glycol dimethacrylate 7559-82-2 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| Propylene glycol dimethacrylate 7559-82-2 | Acute toxicity estimate (ATE) | > 5.000 mg/kg | | Expert judgement |

Acute inhalative toxicity:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|---|--|-----------------|-----------------|------------------|---------|---|
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Acute toxicity estimate (ATE) | 28,17 mg/l | dust/mist | | | Expert judgement |
| Cumene hydroperoxide 80-15-9 | LC50 | 1,370 mg/l | vapour | 4 h | rat | not specified |
| methacrylic acid 79-41-4 | LC50 | 3,19 - 6,5 mg/l | dust/mist | 4 h | rat | equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity) |
| methacrylic acid 79-41-4 | Acute toxicity estimate (ATE) | 3,19 mg/l | dust/mist | | | Expert judgement |
| methyl methacrylate 80-62-6 | LC50 | 29,8 mg/l | vapour | 4 h | rat | not specified |

Skin corrosion/irritation:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result | Exposure time | Species | Method |
|---|------------------------|------------------|--|---|
| Hydroxypropyl methacrylate 27813-02-1 | not irritating | 24 h | rabbit | Draize Test |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | not irritating | 24 h | rabbit | Draize Test |
| Methacryloyloxyethyl succinate 20882-04-6 | not irritating | 0,25 h | Human, EPIKIN™ Reconstituted Human Epidermis model | OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method) |
| Methacryloyloxyethyl succinate 20882-04-6 | not corrosive | 4 h | Human, EPIKIN™ Reconstituted Human Epidermis model | OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method) |
| Cumene hydroperoxide 80-15-9 | corrosive | | rabbit | Draize Test |
| methacrylic acid 79-41-4 | corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | not corrosive | | Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE) | OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | not irritating | | Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE) | OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method) |
| 2-Hydroxyethyl methacrylate 868-77-9 | slightly irritating | 24 h | rabbit | Draize Test |
| Propylene glycol dimethacrylate | not irritating | 24 h | rabbit | FDA Guideline |

| | | | | |
|-----------|--|--|--|--|
| 7559-82-2 | | | | |
|-----------|--|--|--|--|

Serious eye damage/irritation:

Non corrosive to eyes according to test method OECD 438 or based on analogy to similar products tested.

| Hazardous substances CAS-No. | Result | Exposure time | Species | Method |
|---|--|------------------|----------------------------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | Category 2B (mildly irritating to eyes) | | rabbit | Draize Test |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Methacryloyloxyethyl succinate 20882-04-6 | Category I | 10 min | Bovine, cornea, in vitro test | OECD Guideline 437 (BCOP) |
| methacrylic acid 79-41-4 | corrosive | | rabbit | Draize Test |
| Acetic acid, 2- phenylhydrazide 114-83-0 | not irritating | | Chicken, eye, isolated | OECD Guideline 438 (Isolated Chicken Eye Test Method) |
| 2-Hydroxyethyl methacrylate 868-77-9 | Category 2B (mildly irritating to eyes) | | rabbit | Draize Test |
| Propylene glycol dimethacrylate 7559-82-2 | not irritating | | 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 CAS-No. | Result | Test type | Species | Method |
|---|-----------------|---|--|--|
| Hydroxypropyl methacrylate 27813-02-1 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Hydroxypropyl methacrylate 27813-02-1 | sensitising | Guinea pig maximisation test | guinea pig | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| methacrylic acid 79-41-4 | not sensitising | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | positive | Direct peptide reactivity assay (DPRA) | cysteine and lysine, in chemico test | OECD Guideline 442C (Direct Peptide Reactivity Assay (DPRA)) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | positive | Activation of keratinocytes | human keratinocytes, in vitro test | OECD Guideline 442D (ARE-Nrf2 Luciferase Test Method) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | positive | activation of dendritic cells | human monocytes, in vitro test | OECD Guideline 442E (H-CLAT: Human Cell Line Activation Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | not sensitising | Buehler test | guinea pig | Buehler test |
| 2-Hydroxyethyl methacrylate 868-77-9 | sensitising | Guinea pig maximisation test | guinea pig | Magnusson and Kligman Method |
| methyl methacrylate 80-62-6 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Propylene glycol dimethacrylate 7559-82-2 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |

Germ cell mutagenicity:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---|---------------|--|---|----------------|--|
| 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 | positive | in vitro mammalian chromosome aberration test | with and without | | Chromosome Aberration Test |
| Hydroxypropyl methacrylate 27813-02-1 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | negative | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Cumene hydroperoxide 80-15-9 | positive | bacterial reverse mutation assay (e.g Ames test) | without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 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) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | positive | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | negative | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus 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) |
| methyl methacrylate 80-62-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | not specified |

Carcinogenicity

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

Based on available data, the classification criteria are not met.

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|--|------------------|---------------------------------|---|----------------|-------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | not carcinogenic | inhalation | 2 y 6 h/d, 5 d/w | rat | male | equivalent or similar OECD Guideline 451 (Carcinogenicity Studies) |
| methacrylic acid 79-41-4 | not carcinogenic | inhalation | 2 y | mouse | male/female | OECD Guideline 451 (Carcinogenicity Studies) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | carcinogenic | oral: drinking water | continuous | mouse | male/female | not specified |
| 2-Hydroxyethyl methacrylate 868-77-9 | not carcinogenic | inhalation | 2 y 6 h/d, 5 d/w | rat | female | equivalent or similar OECD Guideline 451 (Carcinogenicity Studies) |
| 2-Hydroxyethyl methacrylate 868-77-9 | not carcinogenic | inhalation | 2 y 6 h/d, 5 d/w | rat | male | equivalent or similar OECD Guideline 451 (Carcinogenicity Studies) |

Reproductive toxicity:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|---|--|-----------------------------|---------------------------------|----------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL P 300 mg/kg NOAEL F1 1.000 mg/kg | screening | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL P 400 mg/kg NOAEL F1 400 mg/kg | two- generation study | oral: gavage | rat | OECD Guideline 416 (Two- Generation Reproduction Toxicity Study) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | NOAEL P 1.000 mg/kg NOAEL F1 1.000 mg/kg | | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| methacrylic acid 79-41-4 | NOAEL P 50 mg/kg NOAEL F1 400 mg/kg NOAEL F2 400 mg/kg | Two generation study | oral: gavage | rat | OECD Guideline 416 (Two- Generation Reproduction Toxicity Study) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOAEL P >= 1.000 mg/kg NOAEL F1 >= 1.000 mg/kg | screening | oral: gavage | rat | equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study) |

STOT-single exposure:

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

| Hazardous substances CAS-No. | Assessment | Route of exposure | Target Organs | Remarks |
|---|-----------------------------------|----------------------|---------------|---------|
| methacrylic acid 79-41-4 | May cause respiratory irritation. | | | |
| Propylene glycol dimethacrylate 7559-82-2 | May cause respiratory irritation. | | | |

STOT-repeated exposure:

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

Based on available data, the classification criteria are not met.

| Hazardous substances CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|-------------------|-------------------------|--|---------|---|
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL 300 mg/kg | oral: gavage | 49 d daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOAEL 0,352 mg/l | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | NOAEL 1.000 mg/kg | oral: gavage | daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Cumene hydroperoxide 80-15-9 | | inhalation: aerosol | 6 h/d 5 d/w | rat | not specified |
| methacrylic acid 79-41-4 | | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOAEL 100 mg/kg | oral: gavage | 49 d daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOAEL 0,352 mg/l | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| methyl methacrylate 80-62-6 | LOAEL 2000 ppm | inhalation | 14 weeks 6 hrs/day, 5 days/wk | mouse | Dose Range Finding Study |
| methyl methacrylate 80-62-6 | NOAEL 1000 ppm | inhalation | 14 weeks 6 hrs/day, 5 days/wk | mouse | Dose Range Finding Study |

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

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.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---------------|------------|---------------|---|--|
| Hydroxypropyl methacrylate 27813-02-1 | LC50 | 493 mg/l | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| 2,2'-Ethylenedioxyethyl dimethacrylate 109-16-0 | LC50 | 16,4 mg/l | 96 h | Danio rerio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Cumene hydroperoxide 80-15-9 | LC50 | 3,9 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| methacrylic acid 79-41-4 | LC50 | 85 mg/l | 96 h | Salmo gairdneri (new name: Oncorhynchus mykiss) | EPA OTS 797.1400 (Fish Acute Toxicity Test) |
| methacrylic acid 79-41-4 | NOEC | 10 mg/l | 35 d | Danio rerio | OECD Guideline 210 (fish early life stage toxicity test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LC50 | > 100 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| methyl methacrylate 80-62-6 | LC50 | 350 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Propylene glycol dimethacrylate 7559-82-2 | LC50 | 15,95 mg/l | 96 h | Danio rerio (reported as Brachydanio rerio) | OECD Guideline 203 (Fish, Acute Toxicity Test) |

Toxicity (aquatic invertebrates):

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

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---------------|--------------|---------------|---------------|--|
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 143 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | EC50 | > 515,4 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 18,84 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| methacrylic acid 79-41-4 | EC50 | > 130 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | EC50 | 1,1 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | EC50 | 380 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| methyl methacrylate 80-62-6 | EC50 | 69 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) |
| Propylene glycol dimethacrylate 7559-82-2 | EC50 | 44,9 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|-----------|---------------|---------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | 45,2 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | NOEC | 32 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| methacrylic acid 79-41-4 | NOEC | 53 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 24,1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| methyl methacrylate 80-62-6 | NOEC | 37 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Propylene glycol dimethacrylate 7559-82-2 | NOEC | 5,05 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.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---------------|-------------|---------------|---|---|
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | > 97,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | EC50 | > 100 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | NOEC | 18,6 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | EC50 | > 312 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | NOEC | 21,1 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 3,1 mg/l | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Cumene hydroperoxide 80-15-9 | NOEC | 1 mg/l | 72 h | Desmodesmus subspicatus (reported as Scenedesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid 79-41-4 | NOEC | 8,2 mg/l | 72 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methacrylic acid 79-41-4 | EC50 | 45 mg/l | 72 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | EC50 | 0,258 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | NOEC | 0,012 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | EC50 | 836 mg/l | 72 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 400 mg/l | 72 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methyl methacrylate 80-62-6 | EC50 | 170 mg/l | 96 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methyl methacrylate 80-62-6 | NOEC | 100 mg/l | 96 h | Selastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Propylene glycol dimethacrylate 7559-82-2 | EC50 | 17,3 mg/l | 72 h | Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Propylene glycol dimethacrylate 7559-82-2 | EC10 | 6,93 mg/l | 72 h | Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |

Toxicity (microorganisms):

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

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|------------|---------------|--------------------|------------------------------------|
| Hydroxypropyl methacrylate 27813-02-1 | EC10 | 1.140 mg/l | 16 h | | not specified |
| Cumene hydroperoxide 80-15-9 | EC10 | 70 mg/l | 30 min | not specified | not specified |
| methacrylic acid 79-41-4 | EC10 | 100 mg/l | 17 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas) |

| | | | | | Zellvermehrungshemm-Test) |
|--|------|------------------|--------|---|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | EC0 | > 3.000 mg/l | 16 h | Pseudomonas fluorescens | other guideline: |
| methyl methacrylate 80-62-6 | EC20 | > 150 - 200 mg/l | 30 min | activated sludge, domestic | ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge) |
| Propylene glycol dimethacrylate 7559-82-2 | EC50 | 570 mg/l | 3 h | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |

12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|--|----------------------------|-----------|---------------|---------------|---|
| Hydroxypropyl methacrylate 27813-02-1 | readily biodegradable | aerobic | 94,2 % | 28 d | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | readily biodegradable | aerobic | 85 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | inherently biodegradable | aerobic | 80 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Methacryloyloxyethyl succinate 20882-04-6 | not readily biodegradable. | aerobic | 80 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| Cumene hydroperoxide 80-15-9 | not readily biodegradable. | aerobic | 3 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO ₂ Evolution Test) |
| methacrylic acid 79-41-4 | readily biodegradable | aerobic | 86 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| methacrylic acid 79-41-4 | inherently biodegradable | aerobic | 100 % | 14 d | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| Acetic acid, 2-phenylhydrazide 114-83-0 | not readily biodegradable. | aerobic | 39 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| methyl methacrylate 80-62-6 | readily biodegradable | aerobic | 94 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Propylene glycol dimethacrylate 7559-82-2 | not readily biodegradable. | aerobic | 69 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |

12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | Bioconcentration factor (BCF) | Exposure time | Temperature | Species | Method |
|---------------------------------|-------------------------------|---------------|-------------|-------------|---|
| Cumene hydroperoxide 80-15-9 | 9,1 | | | calculation | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | LogPow | Temperature | Method |
|---|--------|-------------|--|
| Hydroxypropyl methacrylate 27813-02-1 | 0,97 | 20 °C | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | 2,3 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Methacryloyloxyethyl succinate 20882-04-6 | 0,783 | 23 °C | EU Method A.8 (Partition Coefficient) |
| Cumene hydroperoxide 80-15-9 | 1,6 | 25 °C | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| methacrylic acid 79-41-4 | 0,93 | 22 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | 0,74 | | QSAR (Quantitative Structure Activity Relationship) |
| 2-Hydroxyethyl methacrylate 868-77-9 | 0,42 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| methyl methacrylate 80-62-6 | 1,38 | 20 °C | other guideline: |
| Propylene glycol dimethacrylate 7559-82-2 | 2,63 | | other (calculated) |

12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances CAS-No. | PBT / vPvB |
|--|---|
| Hydroxypropyl methacrylate 27813-02-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Cumene hydroperoxide 80-15-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| methacrylic acid 79-41-4 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Acetic acid, 2-phenylhydrazide 114-83-0 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 2-Hydroxyethyl methacrylate 868-77-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| methyl methacrylate 80-62-6 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

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

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.

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 or ID number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

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

14.4. Packing group

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

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 | not applicable |

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590): Not applicable

Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Not applicable

Persistent organic pollutants (Regulation (EU) 2019/1021): Not applicable

VOC content
(2010/75/EC) < 3 %

National regulations/information (Germany):

WGK: WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

Storage class according to TRGS 510: 10

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:

H225 Highly flammable liquid and vapour.
H242 Heating may cause a fire.
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.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
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.

| | |
|-------------|---|
| ED: | Substance identified as having endocrine disrupting properties |
| EU OEL: | Substance with a Union workplace exposure limit |
| EU EXPLD 1: | Substance listed in Annex I, Reg (EC) No. 2019/1148 |
| EU EXPLD 2 | Substance listed in Annex II, Reg (EC) No. 2019/1148 |
| SVHC: | Substance of very high concern (REACH Candidate List) |
| PBT: | Substance fulfilling persistent, bioaccumulative and toxic criteria |
| PBT/vPvB: | Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria |
| vPvB: | Substance fulfilling very persistent and very bioaccumulative criteria |

Further information:

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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.

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