



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

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LOCTITE 638 BO10ML EN/DE

SDS No. : 450822
V008.1

Revision: 18.05.2020

printing date: 20.11.2020

Replaces version from: 25.11.2019

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

1.1. Product identifier

LOCTITE 638 BO10ML EN/DE

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

Intended use:

Adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000

Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

| | |
|---|------------|
| Skin irritation | Category 2 |
| H315 Causes skin irritation. | |
| Serious eye damage | Category 1 |
| H318 Causes serious eye damage. | |
| 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**

3,3,5 Trimethylcyclohexyl methacrylate

2-Hydroxyethyl methacrylate

Acrylic acid

Hydroxypropyl methacrylate
maleic acidAcetic acid, 2-phenylhydrazide
2,2'-Ethylenedioxydiethyl dimethacrylate**Signal word:**

Danger

Hazard statement:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

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:
Prevention**

P261 Avoid breathing vapors.

P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection.

**Precautionary statement:
Response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: 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:**

Adhesive

Base substances of preparation:

Acrylate

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

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|---|------------------------------------|----------------|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | 609-946-4 01-2119980659-17 | 25- 50 % | Aquatic Chronic 4 H413 |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 231-927-0 01-2120748527-45 | 10- 20 % | Aquatic Chronic 2 H411 Skin Sens. 1B H317 STOT SE 3 H335 Skin Irrit. 2 H315 Eye Irrit. 2 H319 |
| 2-Hydroxyethyl methacrylate 868-77-9 | 212-782-2 01-2119490169-29 | 10- 20 % | Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 |
| Acrylic acid 79-10-7 | 201-177-9 01-2119452449-31 | 1- < 5 % | STOT SE 3 H335 Aquatic Chronic 2 H411 Aquatic Acute 1 H400 Acute Tox. 4; Inhalation H332 Acute Tox. 4; Oral H302 Flam. Liq. 3 H226 Skin Corr. 1A H314 Acute Tox. 4; Dermal H312 |
| Hydroxypropyl methacrylate 27813-02-1 | 248-666-3 01-2119490226-37 | 1- < 5 % | Skin Sens. 1 H317 Eye Irrit. 2 H319 |
| Cumene hydroperoxide 80-15-9 | 201-254-7 01-2119475796-19 | 0,1- < 1 % | Acute Tox. 4; Dermal H312 STOT RE 2 H373 Acute Tox. 4; Oral H302 Org. Perox. E H242 Acute Tox. 3; Inhalation H331 Aquatic Chronic 2 H411 Skin Corr. 1B H314 |
| maleic acid 110-16-7 | 203-742-5 01-2119488705-25 | 0,1- < 1 % | Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 STOT SE 3 H335 |
| Acetic acid, 2-phenylhydrazide 114-83-0 | 204-055-3 | 0,1- < 1 % | Acute Tox. 3; Oral H301 Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 |

| | | | |
|---|-------------------------------|------------|--|
| | | | H319 STOT SE 3; Inhalation H335 Carc. 2 H351 |
| 2,2'-Ethylendioxydiethyl dimethacrylate 109-16-0 | 203-652-6 01-2119969287-21 | 0,1- < 1 % | Skin Sens. 1B H317 |
| 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 |

**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.

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

SKIN: Rash, Urticaria.

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

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 (NO_x) can be released.
Sulphur oxides

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.
Remove 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

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**

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

Ensure good ventilation/extraction.
Keep container tightly sealed.
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/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|-----------------------------------|--|-----------------|
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 10 | 29 | Time Weighted Average (TWA): | Indicative | ECLTV |
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECLTV |
| Acrylic acid 79-10-7 [ACRYLIC ACID] | 20 | 59 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| Acrylic acid 79-10-7 [ACRYLIC ACID] | 10 | 29 | Time Weighted Average (TWA): | | EH40 WEL |
| Methacrylic acid 79-41-4 [METHACRYLIC ACID] | 40 | 143 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| Methacrylic acid 79-41-4 [METHACRYLIC ACID] | 20 | 72 | Time Weighted Average (TWA): | | EH40 WEL |

Occupational Exposure Limits

Valid for
Ireland

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|-----------------------------------|--|-----------------|
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 10 | 29 | Time Weighted Average (TWA): | Indicative | ECLTV |
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECLTV |
| Acrylic acid 79-10-7 [ACRYLIC ACID] | 20 | 59 | Short Term Exposure Limit (STEL): | 1 minute Indicative OELV | IR_OEL |
| Acrylic acid 79-10-7 [ACRYLIC ACID] | 10 | 29 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Methacrylic acid 79-41-4 [METHACRYLIC ACID] | 20 | 70 | Time Weighted Average (TWA): | | IR_OEL |
| Methacrylic acid 79-41-4 [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 | |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | aqua (freshwater) | | | | | | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | aqua (marine water) | | | | | | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | sewage treatment plant (STP) | | | | | | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | sediment (freshwater) | | | | | | |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | sediment (marine water) | | | | | | |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | Air | | | | | | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | soil | | | | | | |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | Predator | | | | | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | aqua (freshwater) | | 0,00059 mg/l | | | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | aqua (marine water) | | 0,000059 mg/l | | | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | aqua (intermittent releases) | | 0,0059 mg/l | | | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | sewage treatment plant (STP) | | 100 mg/l | | | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | sediment (freshwater) | | | | 0,044 mg/kg | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | sediment (marine water) | | | | 0,004 mg/kg | | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | Soil | | | | 0,008 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 |
| Acrylic acid 79-10-7 | aqua (freshwater) | | 0,003 mg/l | | | | |
| Acrylic acid 79-10-7 | aqua (marine water) | | 0,0003 mg/l | | | | |
| Acrylic acid 79-10-7 | aqua (intermittent releases) | | 0,0013 mg/l | | | | |
| Acrylic acid 79-10-7 | sewage treatment plant (STP) | | 0,9 mg/l | | | | |
| Acrylic acid 79-10-7 | sediment (freshwater) | | | | 0,0236 mg/kg | | |
| Acrylic acid 79-10-7 | sediment (marine water) | | | | 0,00236 mg/kg | | |
| Acrylic acid 79-10-7 | Soil | | | | 1 mg/kg | | |
| Acrylic acid 79-10-7 | oral | | | | 0,03 g/kg | | |

| | | | | | | |
|---|------------------------------|--|--------------|-----------|--------------|----------------------|
| Acrylic acid 79-10-7 | Predator | | | 0,03 g/kg | | |
| Acrylic acid 79-10-7 | Air | | | | | no hazard identified |
| 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 | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (freshwater) | | 0,0031 mg/l | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (marine water) | | 0,00031 mg/l | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | aqua (intermittent releases) | | 0,031 mg/l | | | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Sewage treatment plant | | 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 | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Soil | | | | 0,0029 mg/kg | |
| Maleic acid 110-16-7 | aqua (freshwater) | | 0,1 mg/l | | | |
| Maleic acid 110-16-7 | aqua (intermittent releases) | | 0,4281 mg/l | | | |
| Maleic acid 110-16-7 | sediment (freshwater) | | | | 0,334 mg/kg | |
| Maleic acid 110-16-7 | sewage treatment plant (STP) | | 44,6 mg/l | | | |
| Maleic acid 110-16-7 | aqua (marine water) | | 0,01 mg/l | | | |
| Maleic acid 110-16-7 | sediment (marine water) | | | | 0,0334 mg/kg | |
| Maleic acid 110-16-7 | Soil | | | | 0,0415 mg/kg | |
| 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 |
| methacrylic acid 79-41-4 | aqua (freshwater) | | 0,82 mg/l | | | | |
| methacrylic acid 79-41-4 | aqua (marine water) | | 0,82 mg/l | | | | |
| methacrylic acid 79-41-4 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| methacrylic acid 79-41-4 | aqua (intermittent releases) | | 0,82 mg/l | | | | |
| methacrylic acid 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 |
|---|--------------------|-------------------|---|---------------|-------------------------|----------------------------------|
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | Workers | inhalation | Long term exposure - systemic effects | | 3,52 mg/m ³ | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | Workers | dermal | Long term exposure - systemic effects | | 2 mg/kg | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | General population | inhalation | Long term exposure - systemic effects | | 0,87 mg/m ³ | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | General population | dermal | Long term exposure - systemic effects | | 1 mg/kg | no hazard identified |
| Bisphenol A, 2-EO dimethacrylate 41637-38-1 | General population | oral | Long term exposure - systemic effects | | 0,5 mg/kg | no hazard identified |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | Workers | inhalation | Long term exposure - systemic effects | | 16,45 mg/m ³ | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | Workers | dermal | Long term exposure - systemic effects | | 46,7 mg/kg | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | General population | inhalation | Long term exposure - systemic effects | | 2,9 mg/m ³ | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | General population | dermal | Long term exposure - systemic effects | | 16,7 mg/kg | |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | General population | oral | Long term exposure - systemic effects | | 1,67 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/m ³ | 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/m ³ | 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 |
| Acrylic acid 79-10-7 | Workers | inhalation | Long term exposure - local effects | | 30 mg/m ³ | no hazard identified |
| Acrylic acid 79-10-7 | Workers | inhalation | Acute/short term exposure - local effects | | 30 mg/m ³ | no hazard identified |
| Acrylic acid 79-10-7 | Workers | dermal | Acute/short term exposure - local effects | | 1 mg/cm ² | no hazard identified |
| Acrylic acid 79-10-7 | General population | dermal | Acute/short term exposure - local effects | | 1 mg/cm ² | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Acute/short term exposure - local effects | | 3,6 mg/m ³ | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Long term exposure - local effects | | 3,6 mg/m ³ | 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/m ³ | |
| Methacrylic acid, monoester with propane-1,2-diol | General population | dermal | Long term exposure - | | 2,5 mg/kg | |

| | | | | | | |
|---|--------------------|------------|--|--|-------------|----------------------|
| 27813-02-1 | | | systemic effects | | | |
| 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 27813-02-1 | General population | oral | Long term exposure - systemic effects | | 2,5 mg/kg | |
| .alpha.,.alpha.-Dimethylbenzyl hydroperoxide 80-15-9 | Workers | inhalation | Long term exposure - systemic effects | | 6 mg/m3 | |
| Maleic acid 110-16-7 | Workers | dermal | Acute/short term exposure - local effects | | 0,55 mg/cm2 | |
| Maleic acid 110-16-7 | Workers | dermal | Long term exposure - local effects | | 0,04 mg/cm2 | |
| Maleic acid 110-16-7 | Workers | dermal | Acute/short term exposure - systemic effects | | 58 mg/kg | |
| Maleic acid 110-16-7 | Workers | dermal | Long term exposure - systemic effects | | 3,3 mg/kg | |
| Maleic acid 110-16-7 | Workers | inhalation | Acute/short term exposure - local effects | | 3 mg/m3 | |
| Maleic acid 110-16-7 | Workers | inhalation | Long term exposure - systemic effects | | 3 mg/m3 | |
| Maleic acid 110-16-7 | Workers | inhalation | Long term exposure - local effects | | 3 mg/m3 | |
| Maleic acid 110-16-7 | Workers | inhalation | Acute/short term exposure - systemic effects | | 3 mg/m3 | |
| 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 |
| methacrylic acid 79-41-4 | Workers | Inhalation | Long term exposure - local effects | | 88 mg/m3 | |
| methacrylic acid 79-41-4 | Workers | Inhalation | Long term exposure - systemic effects | | 29,6 mg/m3 | |
| methacrylic acid 79-41-4 | Workers | dermal | Long term exposure - systemic effects | | 4,25 mg/kg | |
| methacrylic acid 79-41-4 | General population | Inhalation | Long term exposure - local effects | | 6,55 mg/m3 | |
| methacrylic acid 79-41-4 | General population | Inhalation | Long term exposure - systemic effects | | 6,3 mg/m3 | |
| methacrylic acid 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 green |
| Odor | characteristic |
| Odour threshold | No data available / Not applicable |
| pH | No data available / Not applicable |
| Melting point | No data available / Not applicable |
| Solidification temperature | No data available / Not applicable |
| Initial boiling point | No data available / Not applicable |
| Flash point | 93,3 °C (199,94 °F) |
| Evaporation rate | No data available / Not applicable |
| Flammability | No data available / Not applicable |
| Explosive limits | No data available / Not applicable |
| Vapour pressure | No data available / Not applicable |
| Relative vapour density: | No data available / Not applicable |
| Density (ρ) | 1,1 g/cm ³ |
| Bulk density | No data available / Not applicable |

| | |
|--|------------------------------------|
| Solubility | No data available / Not applicable |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| Solubility (qualitative) (Solvent: Acetone) | Miscible |
| Solubility (qualitative) (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

Reaction with strong acids.
Reacts with strong oxidants.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Stable under normal conditions of storage and use.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

None if used for intended purpose.
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 CAS-No. | Value type | Value | Species | Method |
|--|---------------|---------------|---------|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 423 (Acute Oral toxicity) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | LD0 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | LD50 | > 5.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | > 5.000 mg/kg | rat | not specified |
| Acrylic acid 79-10-7 | LD50 | 1.500 mg/kg | rat | BASF Test |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Cumene hydroperoxide 80-15-9 | LD50 | 382 mg/kg | rat | other guideline: |
| maleic acid 110-16-7 | LD50 | 708 mg/kg | rat | not specified |
| Acetic acid, 2- phenylhydrazide 114-83-0 | LD50 | 270 mg/kg | rat | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | LD50 | 10.837 mg/kg | rat | not specified |
| methacrylic acid 79-41-4 | LD50 | 1.320 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |

Acute dermal toxicity:

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

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|--|--|----------------------|---------|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | LD0 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| Acrylic acid 79-10-7 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| Cumene hydroperoxide 80-15-9 | LD50 | 530 - 1.060 mg/kg | rat | other guideline: |
| Cumene hydroperoxide 80-15-9 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| maleic acid 110-16-7 | LD50 | 1.560 mg/kg | rabbit | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | LD50 | > 2.000 mg/kg | mouse | not specified |
| methacrylic acid 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 CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|---------------------------------|--|------------|-----------------|------------------|---------|--|
| Acrylic acid 79-10-7 | LC50 | > 5,1 mg/l | vapour | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |
| Acrylic acid 79-10-7 | Acute toxicity estimate (ATE) | 11 mg/l | vapour | | | Expert judgement |
| methacrylic acid 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 CAS-No. | Result | Exposure time | Species | Method |
|--|---------------------|------------------|---------|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Acrylic acid 79-10-7 | highly corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Hydroxypropyl methacrylate 27813-02-1 | not irritating | 24 h | rabbit | Draize Test |
| Cumene hydroperoxide 80-15-9 | corrosive | | rabbit | Draize Test |
| maleic acid 110-16-7 | irritating | 24 h | human | Patch Test |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | not irritating | 24 h | rabbit | Draize Test |
| methacrylic acid 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 CAS-No. | Result | Exposure time | Species | Method |
|--|----------------------|------------------|---------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2-Hydroxyethyl methacrylate 868-77-9 | irritating | | rabbit | Draize Test |
| Acrylic acid 79-10-7 | corrosive | 21 d | rabbit | BASF Test |
| Hydroxypropyl methacrylate 27813-02-1 | irritating | | rabbit | Draize Test |
| maleic acid 110-16-7 | highly irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| methacrylic acid 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 CAS-No. | Result | Test type | Species | Method |
|---|-----------------|------------------------------------|----------------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Acrylic acid 79-10-7 | not sensitising | Skin painting test | guinea pig | not specified |
| maleic acid 110-16-7 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| maleic acid 110-16-7 | sensitising | Mouse local lymphnode assay (LLNA) | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| 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 | 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 |
|---|---------------|--|---|----------------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | negative | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | positive | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 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 | 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) |
| 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) |
| 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) |
| Cumene hydroperoxide 80-15-9 | positive | bacterial reverse mutation assay (e.g Ames test) | without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| maleic acid 110-16-7 | negative | bacterial reverse mutation assay (e.g Ames test) | no data | | Ames Test |
| maleic acid 110-16-7 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| 2,2'-Ethylendioxydiethyl 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'-Ethylendioxydiethyl 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'-Ethylendioxydiethyl dimethacrylate 109-16-0 | negative | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| methacrylic acid 79-41-4 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| 2-Hydroxyethyl methacrylate | negative | oral: gavage | | rat | OECD Guideline 474 (Mammalian Erythrocyte |

| | | | | | |
|---|----------|--------------|--|-------|---|
| 868-77-9 | | | | | Micronucleus Test) |
| Acrylic acid 79-10-7 | negative | oral: gavage | | rat | OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test) |
| Hydroxypropyl methacrylate 27813-02-1 | negative | oral: gavage | | rat | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| Cumene hydroperoxide 80-15-9 | negative | dermal | | mouse | not specified |
| methacrylic acid 79-41-4 | negative | inhalation | | mouse | OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test) |

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) |
| maleic acid 110-16-7 | not carcinogenic | oral: feed | 2 y daily | rat | male/female | 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 |
|--|--|-----------------------------|----------------------------|---------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | NOAEL P 250 mg/kg NOAEL F1 1.000 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 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 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) |
| maleic acid 110-16-7 | NOAEL F1 150 mg/kg NOAEL F2 55 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) |

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 CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|--|-------------------|-------------------------|--|---------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | NOAEL 300 mg/kg | oral: gavage | 4 weeks daily | rat | OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | NOAEL 1.000 mg/kg | oral: gavage | 28 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 100 mg/kg | oral: gavage | once daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Hydroxypropyl methacrylate 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) |
| Cumene hydroperoxide 80-15-9 | | inhalation: aerosol | 6 h/d 5 d/w | rat | not specified |
| maleic acid 110-16-7 | NOAEL >= 40 mg/kg | oral: feed | 90 d daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| 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) |

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 CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|------------|---------------|--|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | LL50 | | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | LC50 | 1,9 mg/l | 96 h | Brachydanio rerio (new name: Danio rerio) | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LC50 | > 100 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Acrylic acid 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 27813-02-1 | LC50 | 493 mg/l | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| Cumene hydroperoxide 80-15-9 | LC50 | 3,9 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| maleic acid 110-16-7 | LC50 | > 245 mg/l | 48 h | Leuciscus idus | DIN 38412-15 |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | LC50 | 16,4 mg/l | 96 h | Danio rerio | 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) |

Toxicity (Daphnia):

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

| Hazardous substances CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|------------|---------------|---------------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | EL50 | | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | EC50 | 14,43 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) |
| Acrylic acid 79-10-7 | EC50 | 95 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) |
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 143 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 18 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| maleic acid 110-16-7 | EC50 | 42,81 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) |

Chronic toxicity to aquatic invertebrates

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

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|----------------------|-------|-------|---------------|---------|--------|
|----------------------|-------|-------|---------------|---------|--------|

| CAS-No. | type | | | | |
|--|------|-----------|------|---------------|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 24,1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Acrylic acid 79-10-7 | NOEC | 19 mg/l | 21 d | Daphnia magna | EPA OTS 797.1330 (Daphnid Chronic Toxicity Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | 45,2 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| maleic acid 110-16-7 | NOEC | 10 mg/l | 21 d | Daphnia magna | other guideline: |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | NOEC | 32 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 CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|-------------|---------------|---|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | EL50 | | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | EL10 | | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | EC10 | 0,43 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 | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 400 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acrylic acid 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 79-10-7 | EC50 | 0,13 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | EU Method C.3 (Algal Inhibition test) |
| 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) |
| Cumene hydroperoxide 80-15-9 | ErC50 | 3,1 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| maleic acid 110-16-7 | EC50 | 74,35 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| maleic acid 110-16-7 | EC10 | 11,8 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) |
| methacrylic acid 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 79-41-4 | EC50 | 45 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | 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 CAS-No. | Value type | Value | Exposure time | Species | Method |
|--|---------------|--------------|---------------|--|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | EC50 | | 3 h | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | EC0 | > 3.000 mg/l | 16 h | Pseudomonas fluorescens | other guideline: |
| Acrylic acid 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 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 |
| maleic acid 110-16-7 | EC10 | 44,6 mg/l | 18 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test) |
| methacrylic acid 79-41-4 | EC10 | 100 mg/l | 17 h | | not specified |

12.2. Persistence and degradability

The product is not biodegradable.

| Hazardous substances CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|----------------------------|-----------|---------------|---------------|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | not readily biodegradable. | aerobic | 24 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | not readily biodegradable. | aerobic | 16,8 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Acrylic acid 79-10-7 | inherently biodegradable | aerobic | 100 % | 28 d | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| Acrylic acid 79-10-7 | readily biodegradable | aerobic | 81 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Hydroxypropyl methacrylate 27813-02-1 | readily biodegradable | aerobic | 94,2 % | 28 d | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| Cumene hydroperoxide 80-15-9 | | no data | 0 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| maleic acid 110-16-7 | readily biodegradable | aerobic | 97,08 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | readily biodegradable | aerobic | 85 % | 28 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| methacrylic acid 79-41-4 | inherently biodegradable | aerobic | 100 % | 14 d | OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test) |
| methacrylic acid 79-41-4 | readily biodegradable | aerobic | 86 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |

12.3. Bioaccumulative potential

| Hazardous substances CAS-No. | Bioconcentration factor (BCF) | Exposure time | Temperature | Species | Method |
|---------------------------------|-------------------------------|---------------|-------------|-------------|---|
| Acrylic acid 79-10-7 | 3,16 | | | | QSAR (Quantitative Structure Activity Relationship) |
| Cumene hydroperoxide 80-15-9 | 9,1 | | | calculation | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |

12.4. Mobility in soil

Cured adhesives are immobile.

| Hazardous substances CAS-No. | LogPow | Temperature | Method |
|---|------------|-------------|--|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | 5,3 - 5,62 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 5,25 | 20 °C | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| 2-Hydroxyethyl methacrylate 868-77-9 | 0,42 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Acrylic acid 79-10-7 | 0,46 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Hydroxypropyl methacrylate 27813-02-1 | 0,97 | 20 °C | not specified |
| Cumene hydroperoxide 80-15-9 | 2,16 | | not specified |
| maleic acid 110-16-7 | -1,3 | 20 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Acetic acid, 2-phenylhydrazide 114-83-0 | 0,74 | | not specified |
| 2,2'-Ethylenedioxydiethyl dimethacrylate 109-16-0 | 2,3 | | 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) |

12.5. Results of PBT and vPvB assessment

| Hazardous substances CAS-No. | PBT / vPvB |
|---|---|
| Ethoxylated bisphenol A dimethacrylate esters 41637-38-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 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. |
| Acrylic acid 79-10-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Hydroxypropyl methacrylate 27813-02-1 | 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. |
| maleic acid 110-16-7 | 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. |
| methacrylic acid 79-41-4 | 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.

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

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

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

not applicable

SECTION 15: Regulatory information

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

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

15.2. Chemical safety assessment

A chemical safety assessment has 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.
H331 Toxic 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.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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,

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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://mysds.de.henkelgroup.net/mysds/.643691..en.ANNEX_DE.34677269.0.DE.pdf
Alternatively they can be accessed on the internet site www.mysds.henkel.com by entering number 643691