



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

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LOCTITE AA 352 LIGHT CURE ADHESIVE known as Loctite® 352
Light Cure Adhe

SDS No. : 153517
V010.0

Revision: 10.12.2024

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Replaces version from: 17.07.2024

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

1.1. Product identifier

LOCTITE AA 352 LIGHT CURE ADHESIVE known as Loctite® 352 Light Cure Adhe
UFI: S4Y5-EX6R-Q20H-5X22

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

Intended use:
Ultraviolet adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ltd
Adhesives
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

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

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

| | |
|---|------------|
| Skin irritation | Category 2 |
| H315 Causes skin irritation. | |
| Serious eye irritation | Category 2 |
| H319 Causes serious eye irritation. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| Specific target organ toxicity - single exposure | Category 3 |
| H335 May cause respiratory irritation. | |
| Target organ: respiratory tract irritation | |
| Chronic hazards to the aquatic environment | Category 3 |
| H412 Harmful to aquatic life with long lasting effects. | |

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

2-Hydroxyethyl methacrylate

Hydroxypropyl methacrylate
Tert-butyl perbenzoate

Acrylic acid

2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester

Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
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:
Prevention**

P261 Avoid breathing vapors.
P273 Avoid release to the environment.
P280 Wear protective gloves.

**Precautionary statement:
Response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

None if used properly.

Care should be taken during the cure of these products by UV radiation to avoid exposure of the skin and especially of the eyes to direct or reflected UV radiation as long term effects could be harmful.

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 |
|--|---------------|--|---|---------------------|
| 2-Hydroxyethyl methacrylate 868-77-9 212-782-2 01-2119490169-29 | 20- < 40 % | Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 | | |
| Isobornyl methacrylate 7534-94-3 231-403-1 01-2119886505-27 | 10- < 20 % | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412 | STOT SE 3; H335; C >= 10 % | |
| Hydroxypropyl methacrylate 27813-02-1 248-666-3 01-2119490226-37 | 1- < 5 % | Skin Sens. 1, H317 Eye Irrit. 2, H319 | | |
| Tert-butyl perbenzoate 614-45-9 210-382-2 01-2119513317-46 | 1- < 5 % | Org. Perox. C, H242 Skin Irrit. 2, Dermal, H315 Acute Tox. 4, Inhalation, H332 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 3, H412 | M acute = 1 | |
| Acrylic acid 79-10-7 201-177-9 01-2119452449-31 | 1- < 3 % | Acute Tox. 4, Dermal, H312 Skin Corr. 1A, H314 Flam. Liq. 3, H226 Acute Tox. 4, Oral, H302 Acute Tox. 4, Inhalation, H332 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 STOT SE 3, H335 Eye Dam. 1, H318 | STOT SE 3; H335; C >= 1 % ===== M acute = 1 ===== dermal:ATE = 1.100 mg/kg inhalation:ATE = 11 mg/l;vapour | EU OEL |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 246-386-6 01-2120000336-73 | 0,25- < 2,5 % | Aquatic Chronic 3, H412 Acute Tox. 4, Oral, H302 STOT RE 2, H373 | | |
| 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 | |
| 2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1 | 0,1- < 1 % | Eye Irrit. 2, H319 Skin Sens. 1, H317 | | |

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.

Consideration should be given to the possible effects of a faulty UV source (Stray radiation, ozone).

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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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

SKIN: Rash, Urticaria.

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.

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

Ventilation will remove any ozone that may be produced by the ultra violet lamp

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 away from heat and direct sunlight.

Refer to Technical Data Sheet.

7.3. Specific end use(s)

Ultraviolet 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 | ECTLV |
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Acrylic acid 79-10-7 [ACRYLIC ACID] | 10 | 29 | Time Weighted Average (TWA): | | EH40 WEL |
| Acrylic acid 79-10-7 [Acrylic acid] | 20 | 59 | Short Term Exposure Limit (STEL): | 1 minute | EH40 WEL |
| Methacrylic acid 79-41-4 [METHACRYLIC ACID] | 20 | 72 | Time Weighted Average (TWA): | | EH40 WEL |
| Methacrylic acid 79-41-4 [METHACRYLIC ACID] | 40 | 143 | Short Term Exposure Limit (STEL): | 15 minutes | EH40 WEL |

Occupational Exposure LimitsValid 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 | ECTLV |
| Acrylic acid 79-10-7 [ACRYLIC ACID (PROP-2-ENOIC ACID)] | 20 | 59 | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| 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 | |
| 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 | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (freshwater) | | 4,66 µg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | Soil | | | | 0,118 mg/kg | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sewage treatment plant (STP) | | 2,45 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sediment (freshwater) | | | | 0,604 mg/kg | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (intermittent releases) | | 0,0179 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | aqua (marine water) | | 0,000466 mg/l | | | | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | sediment (marine water) | | | | 0,06 mg/kg | | |
| 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 | Air | | | | | | no hazard identified |

| | | | | | | | |
|---|------------------------------|--|--------------|--|---------------|--|----------------------------------|
| 27813-02-1 | | | | | | | |
| Methacrylic acid, monoester with propane-1,2-diol | Predator | | | | | | no potential for bioaccumulation |
| 27813-02-1 | | | | | | | |
| Tert-butyl perbenzoate 614-45-9 | aqua (freshwater) | | 0,01 mg/l | | | | |
| Tert-butyl perbenzoate 614-45-9 | aqua (marine water) | | 0,00101 mg/l | | | | |
| Tert-butyl perbenzoate 614-45-9 | Freshwater - intermittent | | 0,008 mg/l | | | | |
| Tert-butyl perbenzoate 614-45-9 | sewage treatment plant (STP) | | 0,6 mg/l | | | | |
| Tert-butyl perbenzoate 614-45-9 | sediment (freshwater) | | | | 0,28 mg/kg | | |
| Tert-butyl perbenzoate 614-45-9 | sediment (marine water) | | | | 0,028 mg/kg | | |
| Tert-butyl perbenzoate 614-45-9 | Soil | | | | 0,049 mg/kg | | |
| 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 | 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 | Air | | | | | | no hazard identified |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | aqua (freshwater) | | 0,229 mg/l | | | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | Freshwater - intermittent | | 0,184 mg/l | | | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | aqua (marine water) | | 0,0229 mg/l | | | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | Marine water - intermittent | | 0,0184 mg/l | | | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | sewage treatment plant (STP) | | 19,4 mg/l | | | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | sediment (freshwater) | | | | 8,87 mg/kg | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | sediment (marine water) | | | | 0,887 mg/kg | | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | Soil | | | | 1,64 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 |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|--|--------------------|-------------------|---|---------------|-------------|----------------------------------|
| 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 |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | Workers | dermal | Long term exposure - systemic effects | | 1,04 mg/kg | |
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate 7534-94-3 | General population | dermal | Long term exposure - systemic effects | | 0,625 mg/kg | |
| 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 |
| Tert-butyl perbenzoate 614-45-9 | Workers | inhalation | Long term exposure - systemic effects | | 4 mg/m3 | |
| Tert-butyl perbenzoate 614-45-9 | Workers | dermal | Long term exposure - systemic effects | | 6,25 mg/kg | |
| Tert-butyl perbenzoate 614-45-9 | General population | inhalation | Long term exposure - systemic effects | | 1 mg/m3 | |
| Tert-butyl perbenzoate 614-45-9 | General population | oral | Long term exposure - systemic effects | | 0,625 mg/kg | |
| Tert-butyl perbenzoate 614-45-9 | General population | dermal | Long term exposure - systemic effects | | 3,125 mg/kg | |
| Acrylic acid 79-10-7 | Workers | inhalation | Long term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | inhalation | Acute/short term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Acute/short term exposure - local effects | | 3,6 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Long term exposure - local | | 3,6 mg/m3 | no hazard identified |

| | | | effects | | | |
|---|-----------------------|------------|---|--|-------------|-------------------------------------|
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | Workers | inhalation | Long term exposure - systemic effects | | 2,11 mg/m3 | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | Workers | dermal | Long term exposure - systemic effects | | 0,599 mg/kg | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | General population | inhalation | Long term exposure - systemic effects | | 0,372 mg/m3 | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | General population | dermal | Long term exposure - systemic effects | | 0,214 mg/kg | |
| 2,2-Dimethoxy-1,2-diphenylethan-1-one 24650-42-8 | General population | oral | Long term exposure - systemic effects | | 0,214 mg/kg | |
| 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 |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

UV lamp should be designed, installed and operated in such a way as to eliminate exposure of the skin and eyes to stray radiation
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, Acrylic |
| Physical state | liquid |
| Melting point | Not applicable, Product is a liquid |
| Solidification temperature | < -25 °C (< -13 °F) |
| Initial boiling point | > 149 °C (> 300.2 °F) |
| Flammability | The product is not flammable. |
| Explosive limits | Not applicable, The product is not flammable. |
| Flash point | > 93,3 °C (> 199.94 °F); Tagliabue closed cup |
| Auto-ignition temperature | 485 °C (905 °F) |
| Decomposition temperature | Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use |
| pH | Not applicable, Product reacts with water. |
| Viscosity (kinematic) (40 °C (104 °F);) | > 20,5 mm ² /s |
| Solubility (qualitative) (20 °C (68 °F); Solvent: Water) | Slight |
| Solubility (qualitative) (20 °C (68 °F); Solvent: Acetone) | Miscible |
| Partition coefficient: n-octanol/water | Not applicable |
| Vapour pressure (27 °C (80.6 °F)) | Mixture < 10 mm hg |
| Vapour pressure (20 °C (68 °F)) | < 4,67 hPa |
| Density (20 °C (68 °F)) | 1,05 g/cm ³ None |
| Relative vapour density: (20 °C) | 3 |
| Particle characteristics | 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.
Protect from direct sunlight.
Avoid contact with acids and oxidizing agents.

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**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.

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|--|---------------|---------------|---------|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | 5.564 mg/kg | rat | FDA Guideline |
| Isobornyl methacrylate 7534-94-3 | LD50 | 3.160 mg/kg | rat | not specified |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Tert-butyl perbenzoate 614-45-9 | LD50 | 4.838 mg/kg | rat | not specified |
| Acrylic acid 79-10-7 | LD50 | 1.500 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Ethanone, 2,2-dimethoxy- 1,2-diphenyl- 24650-42-8 | LD50 | 1.470 mg/kg | rat | QSAR (Quantitative Structure Activity Relationship) |
| methacrylic acid 79-41-4 | LD50 | 1.320 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| 2-Propenoic acid, 2- methyl-, 2-(2- hydroxyethoxy)ethyl ester 2351-43-1 | LD50 | 5.564 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.

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|--|--|----------------------|---------|---------------------------|
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| Isobornyl methacrylate 7534-94-3 | LD50 | > 3.000 mg/kg | rabbit | not specified |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 5.000 mg/kg | rabbit | not specified |
| Tert-butyl perbenzoate 614-45-9 | LD50 | 3.817 mg/kg | rat | not specified |
| Acrylic acid 79-10-7 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| Ethanone, 2,2-dimethoxy- 1,2-diphenyl- 24650-42-8 | LD50 | > 5.000 mg/kg | rat | not specified |
| 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-Propenoic acid, 2- methyl-, 2-(2- hydroxyethoxy)ethyl ester 2351-43-1 | LD50 | > 5.000 mg/kg | rabbit | not specified |

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 |
|------------------------------------|-------------------------------|-----------------|-----------------|------------------|---------------|--|
| Tert-butyl perbenzoate 614-45-9 | LC50 | 1,01 mg/l | dust/mist | 4 h | not specified | OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class (ATC) Method) |
| Acrylic acid 79-10-7 | LC0 | 5,1 mg/l | vapour | 4 h | rat | equivalent or similar to 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 | 3,19 - 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 |

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 |
|--|-----------------------------|------------------|---------|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | slightly irritating | 24 h | rabbit | Draize Test |
| Isobornyl methacrylate 7534-94-3 | mildly irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Hydroxypropyl methacrylate 27813-02-1 | not irritating | 24 h | rabbit | Draize Test |
| Acrylic acid 79-10-7 | Sub-Category 1A (corrosive) | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| methacrylic acid 79-41-4 | corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| 2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1 | not irritating | 24 h | rabbit | Draize Test |

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 |
|--|---|------------------|---------|---------------|
| 2-Hydroxyethyl methacrylate 868-77-9 | Category 2B (mildly irritating to eyes) | | rabbit | Draize Test |
| Isobornyl methacrylate 7534-94-3 | not irritating | | rabbit | FDA Guideline |
| Isobornyl methacrylate 7534-94-3 | slightly irritating | | rabbit | Draize Test |
| Hydroxypropyl methacrylate 27813-02-1 | Category 2B (mildly irritating to eyes) | | rabbit | Draize Test |
| Acrylic acid 79-10-7 | Category 1 (irreversible effects on the eye) | | rabbit | BASF Test |
| methacrylic acid 79-41-4 | corrosive | | rabbit | Draize Test |
| 2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1 | 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 |
|--|-----------------|------------------------------------|------------|--|
| 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 |
| Isobornyl methacrylate 7534-94-3 | not sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| 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 |
| Acrylic acid 79-10-7 | not sensitising | Freund's complete adjuvant test | guinea pig | Klecak Method |
| Acrylic acid 79-10-7 | not sensitising | Split adjuvant test | guinea pig | Maguire Method |
| methacrylic acid 79-41-4 | not sensitising | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |

Germ cell mutagenicity:

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

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|--|---------------|--|---|----------------|---|
| 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) |
| Isobornyl methacrylate 7534-94-3 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Isobornyl methacrylate 7534-94-3 | negative | | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Isobornyl methacrylate 7534-94-3 | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| 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) |
| Acrylic acid 79-10-7 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Acrylic acid 79-10-7 | negative | mammalian cell gene mutation assay | with and without | | equivalent or similar to 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 | | equivalent or similar to OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells) |
| methacrylic acid 79-41-4 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay) |

Carcinogenicity

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

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|------------------|-------------------------|---|---------|-------------|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | 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) |
| 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) |
| Acrylic acid 79-10-7 | not carcinogenic | oral: drinking water | 26 - 28 m continuously | rat | male/female | OECD Guideline 451 (Carcinogenicity Studies) |
| Acrylic acid 79-10-7 | not carcinogenic | dermal | 21 m 3 times/w | mouse | male/female | not specified |
| 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 |
|---|--|-----------------------------|----------------------------|---------|---|
| 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) |
| Isobornyl methacrylate 7534-94-3 | NOAEL P 25 mg/kg NOAEL F1 500 mg/kg | | oral: gavage | rat | OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |
| 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) |
| Acrylic acid 79-10-7 | NOAEL P 83 mg/kg NOAEL F1 250 mg/kg | one- generation study | oral: drinking water | rat | equivalent or similar to OECD Guideline 415 (One- Generation Reproduction Toxicity Study) |
| Acrylic acid 79-10-7 | NOAEL P 240 mg/kg NOAEL F1 53 mg/kg NOAEL F2 53 mg/kg | two- generation study | oral: drinking water | rat | OECD Guideline 416 (Two- Generation Reproduction Toxicity Study) |
| 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:

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 |
|---------------------------------|-----------------------------------|----------------------|---------------|---------|
| Acrylic acid 79-10-7 | May cause respiratory irritation. | | | |
| methacrylic acid 79-41-4 | May cause respiratory irritation. | | | |

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 |
|---|------------------|----------------------------|--|---------|---|
| 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) |
| 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) |
| Acrylic acid 79-10-7 | NOAEL 40 mg/kg | oral: drinking water | 12 m daily | rat | equivalent or similar to OECD Guideline 452 (Chronic Toxicity Studies) |
| Acrylic acid 79-10-7 | NOAEL 0,015 mg/l | inhalation: vapour | 90 d 6 h/d, 5 d/w | mouse | equivalent or similar to OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| Ethanone, 2,2-dimethoxy- 1,2-diphenyl- 24650-42-8 | NOAEL 42,8 mg/kg | oral: unspecified | 45 d | rat | QSAR (Quantitative Structure Activity Relationship) |
| methacrylic acid 79-41-4 | | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |

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 |
|---|---------------|--------------|---------------|---|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | LC50 | > 100 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Isobornyl methacrylate 7534-94-3 | LC50 | 1,79 mg/l | 96 h | Danio rerio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Hydroxypropyl methacrylate 27813-02-1 | LC50 | 493 mg/l | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| Tert-butyl perbenzoate 614-45-9 | LC50 | 1,6 mg/l | 96 h | Brachydanio rerio (new name: Danio rerio) | 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) |
| Acrylic acid 79-10-7 | NOEC | >= 10,1 mg/l | 45 d | Oryzias latipes | OECD Guideline 210 (fish early life stage toxicity test) |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | LC50 | 29,67 mg/l | 96 h | QSAR | QSAR (Quantitative Structure Activity Relationship) |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | NOEC | 3,215 mg/l | 30 d | QSAR | QSAR (Quantitative Structure Activity Relationship) |
| 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) |

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 |
|---|---------------|-------------|---------------|---------------|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | EC50 | 380 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Isobornyl methacrylate 7534-94-3 | EC50 | > 2,57 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Hydroxypropyl methacrylate 27813-02-1 | EC50 | > 143 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Tert-butyl perbenzoate 614-45-9 | EC50 | 11 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) |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | EC50 | 18,387 mg/l | 48 h | QSAR | QSAR (Quantitative Structure Activity Relationship) |
| 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 (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 |
|---|---------------|------------|---------------|---------------|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 24,1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Isobornyl methacrylate 7534-94-3 | NOEC | 0,233 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Hydroxypropyl methacrylate 27813-02-1 | NOEC | 45,2 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Tert-butyl perbenzoate 614-45-9 | NOEC | 0,44 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) |
| Ethanone, 2,2-dimethoxy-1,2- diphenyl- 24650-42-8 | NOEC | 2,288 mg/l | 21 d | other: | QSAR (Quantitative Structure Activity Relationship) |
| methacrylic acid 79-41-4 | NOEC | 53 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 |
|---|---------------|-------------|---------------|---|---|
| 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) |
| Isobornyl methacrylate 7534-94-3 | EC50 | 2,66 mg/l | 96 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Isobornyl methacrylate 7534-94-3 | NOEC | 0,254 mg/l | 96 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth 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) |
| Tert-butyl perbenzoate 614-45-9 | NOEC | 0,72 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Tert-butyl perbenzoate 614-45-9 | EC50 | 0,8 mg/l | 72 h | 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) |
| Ethanone, 2,2-dimethoxy-1,2- diphenyl- 24650-42-8 | EC50 | 19,66 mg/l | 96 h | other: | QSAR (Quantitative Structure Activity Relationship) |
| 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 (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 |
|--|---------------|--------------|---------------|--|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | EC0 | > 3.000 mg/l | 16 h | Pseudomonas fluorescens | other guideline: |
| Hydroxypropyl methacrylate 27813-02-1 | EC10 | 1.140 mg/l | 16 h | | not specified |
| Tert-butyl perbenzoate 614-45-9 | EC10 | 6 mg/l | 30 min | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| 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) |
| methacrylic acid 79-41-4 | EC10 | 100 mg/l | 17 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- 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 |
|--|----------------------------|-----------|---------------|------------------|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Isobornyl methacrylate 7534-94-3 | readily biodegradable | aerobic | 70 % | 28 d | OECD Guideline 310 (Ready Biodegradability CO ₂ in Sealed Vessels (Headspace Test)) |
| Hydroxypropyl methacrylate 27813-02-1 | readily biodegradable | aerobic | 94,2 % | 28 d | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| Tert-butyl perbenzoate 614-45-9 | readily biodegradable | aerobic | 70 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| 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) |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | 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) |
| 2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester 2351-43-1 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |

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 |
|-------------------------------------|----------------------------------|---------------|-------------|-------------|--|
| Isobornyl methacrylate 7534-94-3 | 37 | 56 day | 24 °C | Danio rerio | OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test) |
| Acrylic acid 79-10-7 | 3,16 | | | | QSAR (Quantitative Structure Activity Relationship) |

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 |
|---|--------|-------------|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | 0,42 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Isobornyl methacrylate 7534-94-3 | 5,09 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Hydroxypropyl methacrylate 27813-02-1 | 0,97 | 20 °C | not specified |
| Tert-butyl perbenzoate 614-45-9 | 3,00 | 25 °C | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| Acrylic acid 79-10-7 | 0,46 | 25 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | 2,95 | 25 °C | QSAR (Quantitative Structure Activity Relationship) |
| 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

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

| Hazardous substances CAS-No. | PBT / vPvB |
|---|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Isobornyl methacrylate 7534-94-3 | 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. |
| Tert-butyl perbenzoate 614-45-9 | 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. |
| Ethanone, 2,2-dimethoxy-1,2-diphenyl- 24650-42-8 | 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. Endocrine disrupting properties

not applicable

12.7. 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 or ID number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

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

14.4. Packing group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

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

14.7. 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) | < 3,00 % |
|-----------------------------|----------|

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H226 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.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
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.
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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