

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

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SDS No.: 175577

V009.0

Revision: 13.10.2020

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Replaces version from: 28.05.2020

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

1.1. Product identifier

LOCTITE AA 322 LC known as Loctite 322

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

LOCTITE AA 322 LC known as Loctite 322

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

rarget organ. Tespiratory tract irritation

Acute hazards to the aquatic environment Category 1

H400 Very toxic to aquatic life.

Chronic hazards to the aquatic environment Category 1

H410 Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains Isobornyl acrylate

Acrylic acid

2-Carboxyethyl acrylate methyl methacrylate

n-butyl methacrylate

2-Hydroxyethyl methacrylate

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.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement: P261 Avoid breathing vapors.

Prevention P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection.

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

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.

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. 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:

UV curing acrylic adhesive

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

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|---------------------------------------|-------------------------------|-----------|---|
| Isobornyl acrylate 5888-33-5 | 227-561-6 01-2119957862-25 | 25- 50 % | Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335 Skin Sens. 1B H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410 |
| Phenol ethoxylate acrylate 56641-05-5 | 500-133-9 | 10- 20 % | Aquatic Chronic 2 H411 Eye Irrit. 2 H319 Skin Irrit. 2 H315 STOT SE 3 H335 |
| 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 |
| 2-Carboxyethyl acrylate 24615-84-7 | 246-359-9 | 0,1-< 1 % | Aquatic Chronic 2 H411 Skin Corr. 1 H314 Eye Dam. 1 H318 Skin Sens. 1 H317 STOT SE 3 H335 |
| methyl methacrylate 80-62-6 | 201-297-1 01-2119452498-28 | 0,1-< 1 % | Flam. Liq. 2 |
| 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 |
| Camphene 79-92-5 | 201-234-8 | 0,1-< 1 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 Flam. Sol. 2 |

| | | | H228 Eye Irrit. 2 H319 |
|---|-------------------------------|-----------|---|
| 1,7,7-Trimethyltricyclo[2.2.1.02,6]heptane 508-32-7 | 208-083-7, 208- 083-7 | 0,1-< 1 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 |
| n-butyl methacrylate 97-88-1 | 202-615-1 01-2119486394-28 | 0,1-< 1 % | Eye Irrit. 2 H319 Skin Irrit. 2 H315 Skin Sens. 1 H317 Flam. Liq. 3 H226 STOT SE 3 H335 |
| 2-Hydroxyethyl methacrylate 868-77-9 | 212-782-2 01-2119490169-29 | 0,1-< 1 % | Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 |

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.

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 if necessary.

Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.

Seek medical advice.

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:

None known

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Wear protective equipment.

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

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

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

See advice in section 8

Hygiene measures:

Good industrial hygiene practices should be observed.

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities

Refer to Technical Data Sheet

7.3. Specific end use(s)

Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for

Great Britain

| Ingredient [Regulated substance] | ppm | mg/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): | 15 minutes | EH40 WEL |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 50 | 208 | Time Weighted Average (TWA): | | EH40 WEL |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 100 | | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 50 | | Time Weighted Average (TWA): | Indicative | ECTLV |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 100 | 416 | Short Term Exposure Limit (STEL): | 15 minutes | 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 Limits

Valid for

Ireland

| Ingredient [Regulated substance] | lient [Regulated substance] ppm mg/m³ 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 |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 50 | | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Methyl methacrylate 80-62-6 [METHYL METHACRYLATE] | 100 | | Short Term Exposure Limit (STEL): | Indicative | ECTLV |
| Methyl methacrylate 80-62-6 | 50 | | Time Weighted Average (TWA): | Indicative | ECTLV |

| [METHYL METHACRYLATE] | | | | | |
|-----------------------|-----|-----|-----------------------|-----------------|--------|
| Methyl methacrylate | 100 | | Short Term Exposure | 15 minutes | IR_OEL |
| 80-62-6 | | | Limit (STEL): | Indicative OELV | |
| [METHYL METHACRYLATE] | | | | | |
| Methacrylic acid | 20 | 70 | Time Weighted Average | | IR_OEL |
| 79-41-4 | | | (TWA): | | |
| [METHACRYLIC ACID] | | | | | |
| Methacrylic acid | 40 | 140 | Short Term Exposure | 15 minutes | IR_OEL |
| 79-41-4 | | | Limit (STEL): | | |
| [METHACRYLIC ACID] | | | | | |

Predicted No-Effect Concentration (PNEC):

| | Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks | |
|---|------------------------------|------------------------------|-----------------|-------------|-----|------------|--|----------------------|--|
| substanty actypates \$888-31-5 (ficelinstate) mg/l substanty actypate aqua (marine mg/l substant | | | | mg/l | ppm | mg/kg | others | | |
| SSS-3.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5 | Isobornyl acrylate | aqua | | | | 0 0 | | | |
| SSS-3.5 water) mg/l | 5888-33-5 | | | mg/l | | | | | |
| SSS-3.5 water) mg/l | | | | 0,000092 | | | | | |
| sobornyl acylate soborn | 5888-33-5 | | | | | | | | |
| SSSS-3.5.5 treatment plant (STP) Sobornyal acrylate SSSS-3.5.5 treatment plant (STP) Sobornyal acrylate SSSS-3.5.5 treatment mg/l treatment treatment mg/l treatment treatment mg/l treatment tr | Isobornyl acrylate | | | | | | | | |
| Sobornyl acrylate Sagna O,00704 Sagna O,00705 O, | 5888-33-5 | treatment plant | | | | | | | |
| SSSS-3-5 Gintermittent mg/l m | Isohornyl acrylate | | | 0.00704 | | | | | |
| softwarty acrystac softwarty acr | 5888-33-5 | (intermittent | | | | | | | |
| S888-3-5 Creshwater) mg/kg | Isohornyl acrylata | , | | | | 0.145 | | | |
| sobornyl acrylate sediment | 5000 22 5 | | | | | | | | |
| S888-3.5 (marine water) mg/kg sobornyl acrystate Soil 0.0285 mg/kg no hazard identified S888-3.5 | | | | _ | | | - | | |
| Soli | | | | | | | | | |
| S883-3.5 | | | | | | mg/kg | | | |
| S888-3.5 | 5888-33-5 | | | | | | | | |
| S888.3.5 | Isobornyl acrylate 5888-33-5 | Air | | | | | | no hazard identified | |
| Acrylic acid aqua (marine 0.003 mg/l 1 1 1 1 1 1 1 1 1 | Isobornyl acrylate | Predator | | | | | | | |
| 19-10-7 (freshwater) | | | | 0.002 " | | | | Dioaccumulation | |
| Acrylic acid aqua (marine 0,0003 mg/1 mg/ | | | | U,003 mg/l | | | | | |
| 19-10-7 water) mg/l | | | | 0.000 | ļ | | | | |
| Acrylic acid aqua (0.0013 mg/l mg/ | | | | | | | | | |
| | | | | | | | | | |
| releases | Acrylic acid | aqua | | 0,0013 | | | | | |
| Post Interatment plant CSTP C | 79-10-7 | | | mg/l | | | | | |
| 19-10-7 | Acrylic acid | sewage | | 0,9 mg/l | | | | | |
| Acrylic acid Sediment Greshwater) Go.0236 Go.038 | 79-10-7 | treatment plant | | | | | | | |
| | Acrylic acid | | | | | 0.0236 | | | |
| Acrylic acid Sediment (marine water) mg/kg m | | | | | | | | | |
| 19-10-7 (marine water) mg/kg | | | | 1 | | | | | |
| Acrylic acid For F | 79-10-7 | | | | | | | | |
| Acrylic acid | Acrylic acid | | | | | | | | |
| Predator Quantification Predator Quantification | Acrylic acid | oral | | | | 0,03 g/kg | | | |
| 10-10-7 | | Duodotou | | | | 0.02 -/1 | | | |
| 19-10-7 | 79-10-7 | | | | | 0,03 g/kg | | | |
| S0-62-6 (freshwater) | 79-10-7 | Air | | | | | | no hazard identified | |
| S0-62-6 water) | 80-62-6 | | | | | | | | |
| Aqua (intermittent releases) (intermit | methyl methacrylate | | | 0,94 mg/l | | | | | |
| Solid Soli | | | | 0.04 mg/l | | | | | |
| Sewage 10 mg/l | 80-62-6 | (intermittent | | 0,94 mg/1 | | | | | |
| treatment plant (STP) | methyl methacrylate | | | 10 mg/l | | | | | |
| Sediment So-62-6 (freshwater) Soil 1,47 mg/kg Soil | 80-62-6 | treatment plant | | 10 mg/1 | | | | | |
| 1,47 mg/kg 1,4 | methyl methacrylate | sediment | | | | 5,74 mg/kg | | | |
| aqua (freshwater) | methyl methacrylate | | | | | 1,47 mg/kg | | | |
| 10 10 10 10 10 10 10 10 | δU-02-0 | | | 0.92 // | 1 | | 1 | | |
| 10 mg/l | 79-41-4 | (freshwater) | | | | | | | |
| 10 mg/l 10 m | methacrylic acid 79-41-4 | | | 0,82 mg/l | | | | | |
| methacrylic acid 79-41-4 (intermittent releases) methacrylic acid 79-41-4 Soil 1,2 mg/kg | methacrylic acid 79-41-4 | sewage treatment plant | | 10 mg/l | | | | | |
| 79-41-4 (intermittent releases) methacrylic acid Soil 1,2 mg/kg 79-41-4 | methacrylic acid | | | 0.82 mg/l | 1 | | | + | |
| nethacrylic acid Soil 1,2 mg/kg 79-41-4 | 79-41-4 | (intermittent | | 0,02 1118/1 | | | | | |
| | methacrylic acid | | | | | 1,2 mg/kg | | | |
| | n-butyl methacrylate | aqua | | 0,017 mg/l | 1 | - | + | + | |

| 97-88-1 | (freshwater) | | | |
|---|------------------------------------|------------|----------------|----------------------------------|
| n-butyl methacrylate | aqua (marine | 0,002 mg/l | | |
| 97-88-1 | water) | | | |
| n-butyl methacrylate | sewage | 31,7 mg/l | | |
| 97-88-1 | treatment plant (STP) | | | |
| n-butyl methacrylate | sediment | | 4,73 mg/kg | |
| 97-88-1 | (freshwater) | | 1,75 mg/kg | |
| n-butyl methacrylate | sediment | | 0,473 | |
| 97-88-1 | (marine water) | | mg/kg | |
| n-butyl methacrylate 97-88-1 | Air | | | no hazard identified |
| n-butyl methacrylate | soil | | 0,935 | |
| 97-88-1 | | | mg/kg | |
| n-butyl methacrylate 97-88-1 | Predator | | | no potential for bioaccumulation |
| 2-Hydroxyethyl methacrylate | aqua | 0,482 mg/l | | |
| 868-77-9 | (freshwater) | | | |
| 2-Hydroxyethyl methacrylate | aqua (marine | 0,482 mg/l | | |
| 868-77-9 | water) | | | |
| 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 |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---------------------------------|-----------------------|----------------------|---|------------------|-------------|----------------------|
| Isobornyl acrylate 5888-33-5 | Workers | dermal | Long term exposure - systemic effects | | 1,39 mg/kg | no hazard identified |
| Isobornyl acrylate 5888-33-5 | General population | oral | Long term exposure - systemic effects | | 0,83 mg/kg | no hazard identified |
| Isobornyl acrylate 5888-33-5 | General population | dermal | Long term exposure - systemic effects | | 0,83 mg/kg | no hazard identified |
| Acrylic acid 79-10-7 | Workers | inhalation | Long term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | inhalation | Acute/short term exposure - local effects | | 30 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | Workers | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | dermal | Acute/short term exposure - local effects | | 1 mg/cm2 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Acute/short term exposure - local effects | | 3,6 mg/m3 | no hazard identified |
| Acrylic acid 79-10-7 | General population | inhalation | Long term exposure - local effects | | 3,6 mg/m3 | no hazard identified |
| methyl methacrylate 80-62-6 | Workers | dermal | Acute/short term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | Workers | dermal | Long term exposure - systemic effects | | 13,67 mg/kg | |
| methyl methacrylate 80-62-6 | Workers | Inhalation | Long term exposure - systemic effects | | 208 mg/m3 | |
| methyl methacrylate 80-62-6 | Workers | dermal | Long term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | Workers | Inhalation | Long term exposure - local effects | | 208 mg/m3 | |
| methyl methacrylate 80-62-6 | General population | dermal | Acute/short term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | General population | dermal | Long term exposure - systemic effects | | 8,2 mg/kg | |
| methyl methacrylate 80-62-6 | General population | Inhalation | Long term exposure - systemic effects | | 74,3 mg/m3 | |
| methyl methacrylate 80-62-6 | General population | dermal | Long term exposure - local effects | | 1,5 mg/cm2 | |
| methyl methacrylate 80-62-6 | General population | Inhalation | Long term exposure - local effects | | 104 mg/m3 | |
| 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 - | | 6,3 mg/m3 | |

| | | | systemic effects | | |
|---|--------------------|------------|---|-------------|----------------------------------|
| methacrylic acid 79-41-4 | General population | dermal | Long term exposure - systemic effects | 2,55 mg/kg | |
| n-butyl methacrylate 97-88-1 | Workers | dermal | Acute/short term exposure - local effects | 1 % | no hazard identified |
| n-butyl methacrylate 97-88-1 | Workers | dermal | Long term exposure - systemic effects | 5 mg/kg | no hazard identified |
| n-butyl methacrylate 97-88-1 | Workers | Inhalation | Long term exposure - systemic effects | 415,9 mg/m3 | no hazard identified |
| n-butyl methacrylate 97-88-1 | Workers | dermal | Long term exposure - local effects | 1 % | no hazard identified |
| n-butyl methacrylate 97-88-1 | Workers | Inhalation | Long term exposure - local effects | 409 mg/m3 | no hazard identified |
| n-butyl methacrylate 97-88-1 | General population | dermal | Acute/short term exposure - local effects | 1 % | no hazard identified |
| n-butyl methacrylate 97-88-1 | General population | dermal | Long term exposure - systemic effects | 3 mg/kg | no hazard identified |
| n-butyl methacrylate 97-88-1 | General population | Inhalation | Long term exposure - systemic effects | 66,5 mg/m3 | no hazard identified |
| n-butyl methacrylate 97-88-1 | General population | dermal | Long term exposure - local effects | 1 % | no hazard identified |
| n-butyl methacrylate 97-88-1 | General population | Inhalation | Long term exposure - local effects | 366,4 mg/m3 | no hazard identified |
| 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 |

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; \geq 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 paste yellow Odor Sharp

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

 $\begin{array}{ll} \mbox{Initial boiling point} & > 150,0 \ ^{\circ}\mbox{C} \ (> 302 \ ^{\circ}\mbox{F}) \\ \mbox{Flash point} & > 93,0 \ ^{\circ}\mbox{C} \ (> 199.4 \ ^{\circ}\mbox{F}) \end{array}$

Evaporation rate No data available / Not applicable Flammability No data available / Not applicable Explosive limits No data available / Not applicable

Vapour pressure < 3,9900000 mbar

(20,0 °C (68 °F))

Relative vapour density: No data available / Not applicable

Density 1,0500 g/cm3

()

Bulk density No data available / Not applicable Solubility No data available / Not applicable

Solubility (qualitative) Not miscible

(Solvent: Water)

Partition coefficient: n-octanol/water
Auto-ignition temperature
Decomposition temperature
Viscosity
No data available / Not applicable
Viscosity
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
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. Polymerises in the presence of sunlight.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Protect from direct sunlight.

Avoid contact with acids and oxidizing agents.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Oxides of carbon.

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 | Value | Value | Species | Method |
|--|-------|----------------|---------|---|
| CAS-No. | type | | | |
| Isobornyl acrylate 5888-33-5 | LD50 | 4.350 mg/kg | rat | not specified |
| Acrylic acid 79-10-7 | LD50 | 1.500 mg/kg | rat | BASF Test |
| methyl methacrylate 80-62-6 | LD50 | 9.400 mg/kg | rat | not specified |
| methacrylic acid 79-41-4 | LD50 | 1.320 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Camphene 79-92-5 | LD50 | >= 5.000 mg/kg | rat | Limit Test |
| n-butyl methacrylate 97-88-1 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| 2-Hydroxyethyl methacrylate 868-77-9 | LD50 | > 5.000 mg/kg | rat | not specified |

Acute dermal toxicity:

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

| Hazardous substances CAS-No. | Value type | Value | Species | Method |
|--|-------------------------------|----------------------|---------|--|
| Isobornyl acrylate 5888-33-5 | LD50 | > 3.000 mg/kg | rabbit | other guideline: |
| Acrylic acid 79-10-7 | Acute toxicity estimate (ATE) | 1.100 mg/kg | | Expert judgement |
| methyl methacrylate 80-62-6 | LD50 | > 5.000 mg/kg | rabbit | 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 |
| n-butyl methacrylate 97-88-1 | LD50 | > 2.000 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |
| 2-Hydroxyethyl methacrylate 868-77-9 | 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 | Value | Value | Test atmosphere | Exposure | Species | Method |
|----------------------|----------|------------|-----------------|----------|---------|---------------------------|
| CAS-No. | type | | | time | | |
| Acrylic acid | LC50 | > 5,1 mg/l | vapour | 4 h | rat | OECD Guideline 403 (Acute |
| 79-10-7 | | | | | | Inhalation Toxicity) |
| Acrylic acid | Acute | 11 mg/l | vapour | | | Expert judgement |
| 79-10-7 | toxicity | _ | | | | |
| | estimate | | | | | |
| | (ATE) | | | | | |
| methyl methacrylate | LC50 | 29,8 mg/l | vapour | 4 h | rat | not specified |
| 80-62-6 | | _ | | | | |
| methacrylic acid | LC50 | > 3,6 mg/l | dust/mist | 4 h | rat | OECD Guideline 403 (Acute |
| 79-41-4 | | _ | | | | Inhalation Toxicity) |
| methacrylic acid | Acute | 3,61 mg/l | | | | Expert judgement |
| 79-41-4 | toxicity | | | | | |
| | estimate | | | | | |
| | (ATE) | | | | | |
| n-butyl methacrylate | LC50 | 29 mg/l | dust/mist | 4 h | rat | OECD Guideline 403 (Acute |
| 97-88-1 | | | | | | 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 |
|---------------------------------|-----------------------|---------------|---------|--|
| Isobornyl acrylate 5888-33-5 | irritating | | 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) |
| methacrylic acid 79-41-4 | corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Camphene 79-92-5 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| n-butyl methacrylate 97-88-1 | moderately irritating | 24 h | rabbit | not specified |

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 |
|--|------------------------|---------------|---------|---|
| Acrylic acid 79-10-7 | corrosive | 21 d | rabbit | BASF Test |
| methacrylic acid 79-41-4 | corrosive | | rabbit | Draize Test |
| Camphene 79-92-5 | irritating | 24 h | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| n-butyl methacrylate 97-88-1 | slightly irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| 2-Hydroxyethyl methacrylate 868-77-9 | 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 |
|--|-----------------|------------------------------------|------------|--|
| Isobornyl acrylate 5888-33-5 | 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 |
| methyl methacrylate 80-62-6 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| methacrylic acid 79-41-4 | not sensitising | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |
| n-butyl methacrylate 97-88-1 | sensitising | Guinea pig maximisation test | guinea pig | OECD Guideline 406 (Skin Sensitisation) |
| 2-Hydroxyethyl methacrylate 868-77-9 | sensitising | Guinea pig maximisation test | guinea pig | not specified |

Germ cell mutagenicity:

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

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|--|----------|---|--|---------|---|
| Isobornyl acrylate 5888-33-5 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Isobornyl acrylate 5888-33-5 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Isobornyl acrylate 5888-33-5 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| 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) |
| methyl methacrylate 80-62-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | not specified |
| 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) |
| n-butyl methacrylate 97-88-1 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| n-butyl methacrylate 97-88-1 | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| n-butyl methacrylate 97-88-1 | 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 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 | oral: gavage | | rat | OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test) |
| methacrylic acid 79-41-4 | negative | inhalation | | mouse | equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test) |
| methacrylic acid 79-41-4 | negative | oral: gavage | | mouse | equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| Camphene 79-92-5 | negative | oral: gavage | | mouse | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| n-butyl methacrylate 97-88-1 | negative | intraperitoneal | | mouse | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | negative | oral: gavage | | rat | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus 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 |
|--|------------------|-------------------------|---|---------|-------------|--|
| Acrylic acid 79-10-7 | | oral: drinking water | 26 (males) - 28 (females) month continuously | 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) |
| 2-Hydroxyethyl methacrylate 868-77-9 | | inhalation | 102 weeks 6 hours/day, 5 days/week | rat | female | OECD Guideline 451 (Carcinogenicity Studies) |

Reproductive toxicity:

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

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|--|---|----------------------------|----------------------------|---------|---|
| Isobornyl acrylate 5888-33-5 | NOAEL P 100 mg/kg NOAEL F1 100 mg/kg | | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| 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) |
| 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) |
| n-butyl methacrylate 97-88-1 | NOAEL P 400 mg/kg NOAEL F1 400 mg/kg NOAEL F2 400 mg/kg | Two generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOAEL P >= 1.000 mg/kg NOAEL F1 >= 1.000 mg/kg | screening | oral: gavage | rat | OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422) |

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 |
|--|-------------------|----------------------|--|---------|---|
| Isobornyl acrylate 5888-33-5 | NOAEL 100 mg/kg | oral: gavage | once daily | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| methyl methacrylate 80-62-6 | LOAEL 2000 ppm | inhalation | 14 weeks 6 hrs/day, 5 days/wk | mouse | Dose Range Finding Study |
| methyl methacrylate 80-62-6 | NOAEL 1000 ppm | inhalation | 14 weeks 6 hrs/day, 5 days/wk | mouse | Dose Range Finding Study |
| methacrylic acid 79-41-4 | | inhalation | 90 d 6 h/d, 5 d/w | rat | OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day) |
| Camphene 79-92-5 | LOAEL 1.000 mg/kg | oral: gavage | 28 days daily | rat | OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| n-butyl methacrylate 97-88-1 | NOAEL 120 mg/kg | oral: gavage | 3 m daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| 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) |

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 | Value | Value | Exposure time | Species | Method |
|-----------------------------|-------|---------------|---------------|------------------------------|---------------------------|
| CAS-No. | type | | _ | | |
| Isobornyl acrylate | LC50 | 0,704 mg/l | 96 h | Danio rerio | OECD Guideline 203 (Fish, |
| 5888-33-5 | | | | | Acute Toxicity Test) |
| Phenol ethoxylate acrylate | LC50 | > 1 - 10 mg/l | 48 h | Ide, silver or golden orfe | OECD Guideline 203 (Fish, |
| 56641-05-5 | | | | (Leuciscus idus) | Acute Toxicity Test) |
| Acrylic acid | LC50 | 27 mg/l | 96 h | Salmo gairdneri (new name: | EPA OTS 797.1400 (Fish |
| 79-10-7 | | | | Oncorhynchus mykiss) | Acute Toxicity Test) |
| methyl methacrylate | LC50 | 350 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, |
| 80-62-6 | | | | | Acute Toxicity Test) |
| methacrylic acid | LC50 | 85 mg/l | 96 h | Salmo gairdneri (new name: | EPA OTS 797.1400 (Fish |
| 79-41-4 | | | | Oncorhynchus mykiss) | Acute Toxicity Test) |
| Camphene | LC50 | 0,72 mg/l | 96 h | Brachydanio rerio (new name: | OECD Guideline 203 (Fish, |
| 79-92-5 | | | | Danio rerio) | Acute Toxicity Test) |
| n-butyl methacrylate | LC50 | 11 mg/l | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, |
| 97-88-1 | | | | | Acute Toxicity Test) |
| 2-Hydroxyethyl methacrylate | LC50 | > 100 mg/l | 96 h | Oryzias latipes | OECD Guideline 203 (Fish, |
| 868-77-9 | | | | | Acute Toxicity Test) |

Toxicity (Daphnia):

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 | | | | |
| Isobornyl acrylate | EC50 | 1 mg/l | 48 h | Daphnia magna | OECD Guideline 202 |
| 5888-33-5 | | | | | (Daphnia sp. Acute |
| | | | | | Immobilisation Test) |
| Acrylic acid | EC50 | 95 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 |
| 79-10-7 | | | | | (Aquatic Invertebrate Acute |
| | | | | | Toxicity Test, Freshwater |
| | | | | | Daphnids) |
| methyl methacrylate | EC50 | 69 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 |
| 80-62-6 | | | | | (Aquatic Invertebrate Acute |
| | | | | | Toxicity Test, Freshwater |
| | | | | | Daphnids) |
| methacrylic acid | EC50 | > 130 mg/l | 48 h | Daphnia magna | EPA OTS 797.1300 |
| 79-41-4 | | | | | (Aquatic Invertebrate Acute |
| | | | | | Toxicity Test, Freshwater |
| | | | | | Daphnids) |
| Camphene | EC50 | 22 mg/l | 48 h | Daphnia magna | OECD Guideline 202 |
| 79-92-5 | | | | | (Daphnia sp. Acute |
| | | | | | Immobilisation Test) |
| n-butyl methacrylate | EC50 | 32 mg/l | 48 h | Daphnia magna | OECD Guideline 202 |
| 97-88-1 | | | | | (Daphnia sp. Acute |
| | | | | | Immobilisation Test) |
| 2-Hydroxyethyl methacrylate | EC50 | 380 mg/l | 48 h | Daphnia magna | OECD Guideline 202 |
| 868-77-9 | | _ | | | (Daphnia sp. Acute |
| | | | | | Immobilisation Test) |

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 | | | | |
| Isobornyl acrylate | NOEC | 0,092 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |
| 5888-33-5 | | | | | magna, Reproduction Test) |
| Acrylic acid | NOEC | 19 mg/l | 21 d | Daphnia magna | EPA OTS 797.1330 |
| 79-10-7 | | | | | (Daphnid Chronic Toxicity |
| | | | | | Test) |
| methyl methacrylate | NOEC | 37 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |

| | _ | | | | |
|-----------------------------|------|-----------|------|---------------|---------------------------|
| 80-62-6 | | | | | magna, Reproduction Test) |
| n-butyl methacrylate | NOEC | 2,6 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |
| 97-88-1 | | | | | magna, Reproduction Test) |
| 2-Hydroxyethyl methacrylate | NOEC | 24,1 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia |
| 868-77-9 | | | | | magna, Reproduction Test) |

Toxicity (Algae):

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 | | | | |
| Isobornyl acrylate 5888-33-5 | NOEC | 0,405 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Isobornyl acrylate 5888-33-5 | EC50 | 1,98 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) |
| methyl methacrylate 80-62-6 | EC50 | 170 mg/l | 96 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| methyl methacrylate 80-62-6 | NOEC | 100 mg/l | 96 h | Selenastrum capricornutum (new name: 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) |
| Camphene 79-92-5 | NOEC | 320 - 580 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Camphene 79-92-5 | EC50 | > 1.000 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| n-butyl methacrylate 97-88-1 | EC50 | 31,2 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | |
| n-butyl methacrylate 97-88-1 | NOEC | 24,8 mg/l | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | 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) |

Toxicity to microorganisms

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 | | | | |
| Acrylic acid | EC20 | 900 mg/l | 30 min | activated sludge, domestic | ISO 8192 (Test for |
| 79-10-7 | | | | | Inhibition of Oxygen |
| | | | | | Consumption by Activated |
| | | | | | Sludge) |
| methyl methacrylate | EC20 | > 150 - 200 mg/l | 30 min | activated sludge, domestic | ISO 8192 (Test for |
| 80-62-6 | | | | | Inhibition of Oxygen |
| | | | | | Consumption by Activated |
| | | | | | Sludge) |
| methacrylic acid | EC10 | 100 mg/l | 17 h | | not specified |
| 79-41-4 | | | | | |
| Camphene | EC10 | 490 mg/l | 3 h | | OECD Guideline 209 |
| 79-92-5 | | | | | (Activated Sludge, |
| | | | | | Respiration Inhibition Test) |
| n-butyl methacrylate | EC0 | 31,7 mg/l | 18 h | Pseudomonas putida | other guideline: |
| 97-88-1 | | - | | | _ |
| 2-Hydroxyethyl methacrylate | EC0 | > 3.000 mg/l | 16 h | Pseudomonas fluorescens | other guideline: |
| 868-77-9 | | | | | |

12.2. Persistence and degradability

No data available for the product.

| Hazardous substances CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|--------------------------------------|----------------------------|-----------|---------------|---------------|--|
| Isobornyl acrylate 5888-33-5 | not readily biodegradable. | aerobic | 57 % | 28 d | OECD Guideline 310 (Ready BiodegradabilityCO2 in Sealed Vessels (Headspace 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) |
| methyl methacrylate 80-62-6 | readily biodegradable | aerobic | 94 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| 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) |
| Camphene 79-92-5 | not readily biodegradable. | aerobic | 5 % | 10 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |
| n-butyl methacrylate 97-88-1 | readily biodegradable | aerobic | 88 % | 28 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| 2-Hydroxyethyl methacrylate 868-77-9 | readily biodegradable | aerobic | 92 - 100 % | 14 d | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |

12.3. Bioaccumulative potential

| Hazardous substances CAS-No. | Bioconcentratio n factor (BCF) | Exposure time | Temperature | Species | Method |
|---------------------------------|-----------------------------------|---------------|-------------|-------------|---|
| Isobornyl acrylate 5888-33-5 | 37 | 56 h | 24 °C | Danio rerio | OECD Guideline 305 (Bioconcentration: Flow-through Fish Test) |
| Acrylic acid 79-10-7 | 3,16 | | | | QSAR (Quantitative Structure Activity Relationship) |

12.4. Mobility in soil

Cured adhesives are immobile.

| Hazardous substances | LogPow | Temperature | Method |
|--------------------------------------|--------|-------------|--|
| CAS-No. | | | |
| Isobornyl acrylate 5888-33-5 | 4,52 | | 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) |
| methyl methacrylate 80-62-6 | 1,38 | 20 °C | other guideline: |
| methacrylic acid 79-41-4 | 0,93 | 22 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| Camphene 79-92-5 | 4,35 | | not specified |
| n-butyl methacrylate 97-88-1 | 2,99 | 20 °C | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |
| 2-Hydroxyethyl methacrylate 868-77-9 | 0,42 | 25 °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 |
|--------------------------------------|---|
| Isobornyl acrylate 5888-33-5 | 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. |
| methyl methacrylate 80-62-6 | 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. |
| n-butyl methacrylate 97-88-1 | 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. |

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.

Disposal must be made according to official regulations.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

14.1. UN number

| ADR | 3082 |
|------|------|
| RID | 3082 |
| ADN | 3082 |
| IMDG | 3082 |
| IATA | 3082 |

14.2. UN proper shipping name

ADR ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl

acrylate)

RID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl

acrylate)

ADN ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl

acrylate)

IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl

acrylate)

IATA Environmentally hazardous substance, liquid, n.o.s. (Isobornyl acrylate)

14.3. Transport hazard class(es)

| ADR | 9 |
|------|---|
| RID | 9 |
| ADN | 9 |
| IMDG | 9 |
| IATA | 9 |

14.4. Packing group

| ADR | III |
|------|-----|
| RID | III |
| ADN | III |
| IMDG | III |
| IATA | III |

14.5. Environmental hazards

| ADR | not applicable |
|------|------------------|
| RID | not applicable |
| ADN | not applicable |
| IMDG | Marine pollutant |
| IATA | not applicable |

14.6. Special precautions for user

| ADR | not applicable |
|------|----------------|
| | Tunnelcode: |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

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 < 5,00 % (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:

H225 Highly flammable liquid and vapor.

H226 Flammable liquid and vapor.

H228 Flammable solid.

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.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Dear Customer,

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

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.