



Safety Data Sheet according to Regulation (EC) No1907/2006

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LOCTITE 648

SDS No. : 450730
V004.2

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

1.1. Product identifier

LOCTITE 648

Contains:

2-Hydroxyethyl methacrylate
Acrylic acid
Hydroxypropyl methacrylate
Maleic acid

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 Limited
2 Bishop Square Business Park
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933
Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

| | |
|---|------------|
| Skin irritation | Category 2 |
| H315 Causes skin irritation. | |
| Serious eye damage | Category 1 |
| H318 Causes serious eye damage. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| Specific target organ toxicity - single exposure | Category 3 |
| H335 May cause respiratory irritation. | |
| Target organ: respiratory tract irritation | |
| Chronic hazards to the aquatic environment | Category 3 |
| H412 Harmful to aquatic life with long lasting effects. | |

Classification (DPD):

Sensitizing
R43 May cause sensitisation by skin contact.
Xi - Irritant
R36/37/38 Irritating to eyes, respiratory system and skin.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Signal word:

Danger

Hazard statement:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement:

For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of waste and residues in accordance with local authority requirements

**Precautionary statement:
Prevention**

P261 Avoid breathing vapours.
P280 Wear protective gloves/eye protection.
P273 Avoid release to the environment.

**Precautionary statement:
Response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

Label elements (DPD):

Xi - Irritant



Risk phrases:

R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitisation by skin contact.

Safety phrases:

S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.

Contains:

2-Hydroxyethyl methacrylate,
Hydroxypropyl methacrylate,
Maleic acid

2.3. Other hazards

None if used properly.

SECTION 3: Composition/information on ingredients

General chemical description:

Anaerobic adhesive

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

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|---|-------------------------------|-----------------|--|
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 231-927-0 | > 10- < 20 % | Specific target organ toxicity - single exposure 3 H335 Skin irritation 2 H315 Serious eye irritation 2 H319 |
| 2-Hydroxyethyl methacrylate 868-77-9 | 212-782-2 01-2119490169-29 | > 10- < 20 % | Skin irritation 2 H315 Skin sensitizer 1 H317 Serious eye irritation 2 H319 |
| Acrylic acid 79-10-7 | 201-177-9 01-2119452449-31 | > 3- < 5 % | Flammable liquids 3 H226 Acute toxicity 4; Oral H302 Acute toxicity 4; Dermal H312 Skin corrosion 1A H314 Acute toxicity 4; Inhalation H332 Specific target organ toxicity - single exposure 3 H335 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 2 H411 |
| Hydroxypropyl methacrylate 27813-02-1 | 248-666-3 01-2119490226-37 | > 1- < 5 % | Skin sensitizer 1 H317 Serious eye irritation 2 H319 |
| Cumene hydroperoxide 80-15-9 | 201-254-7 | > 0,1- < 0,9 % | Acute toxicity 4; Dermal H312 Specific target organ toxicity - repeated exposure 2 H373 Acute toxicity 4; Oral H302 Organic peroxides E H242 Acute toxicity 3; Inhalation H331 Skin corrosion 1B H314 Chronic hazards to the aquatic environment 2 H411 |
| Maleic acid 110-16-7 | 203-742-5 01-2119488705-25 | > 0,1- < 0,9 % | Acute toxicity 4; Oral H302 Acute toxicity 4; Dermal H312 Skin irritation 2 H315 Skin sensitizer 1 H317 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H335 |
| Acetic acid, 2-phenylhydrazide 114-83-0 | 204-055-3 | >= 0,1- < 0,9 % | Acute toxicity 3; Oral H301 Acute toxicity 4; Dermal H312 |

| | | | |
|-----------------------------|-------------------------------|-----------------|---|
| | | | Skin irritation 2; Dermal H315 Serious eye irritation 2 H319 Acute toxicity 4; Inhalation H332 Specific target organ toxicity - single exposure 3; Inhalation H335 Carcinogenicity 2 H351 |
| Methacrylic acid 79-41-4 | 201-204-4 01-2119463884-26 | >= 0,1- < 0,9 % | Acute toxicity 4; Oral H302 Acute toxicity 3; Dermal H311 Acute toxicity 4; Inhalation H332 Skin corrosion 1A H314 |

**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.**

Declaration of ingredients according to DPD (EC) No 1999/45:

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|--|-------------------------------|-----------------|---|
| 3,3,5 Trimethylcyclohexyl methacrylate 7779-31-9 | 231-927-0 | > 10 - < 20 % | Xi - Irritant; R36/37/38 |
| 2-Hydroxyethyl methacrylate 868-77-9 | 212-782-2 01-2119490169-29 | > 10 - < 20 % | Xi - Irritant; R36/38 R43 |
| Acrylic acid 79-10-7 | 201-177-9 01-2119452449-31 | > 3 - < 5 % | R10 C - Corrosive; R35 N - Dangerous for the environment; R50 Xn - Harmful; R20/21/22 |
| Hydroxypropyl methacrylate 27813-02-1 | 248-666-3 01-2119490226-37 | > 1 - < 5 % | Xi - Irritant; R36, R43 |
| Cumene hydroperoxide 80-15-9 | 201-254-7 | > 0,1 - < 0,9 % | T - Toxic; R23 Xn - Harmful; R21/22, R48/20/22 C - Corrosive; R34 O - Oxidizing; R7 N - Dangerous for the environment; R51/53 |
| Maleic acid 110-16-7 | 203-742-5 01-2119488705-25 | > 0,1 - < 0,9 % | Xn - Harmful; R21/22 Xi - Irritant; R36/37/38, R43 |

**For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:

Rinse with running water and soap.
Seek medical advice.

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

EYE: Irritation, conjunctivitis.

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

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

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder
Fine water spray

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) and carbon dioxide (CO₂) can be released.
In case of fire, keep containers cool with water spray.

5.3. Advice for firefighters

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

Additional information:

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid skin and eye contact.
Ensure adequate ventilation.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

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

Hygiene measures:

Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store at room temperature.

Store in original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.

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 | ppm | mg/m ³ | Type | Category | Remarks |
|-----------------------------|-----|-------------------|--------------------------------------|----------|----------|
| METHACRYLIC ACID 79-41-4 | 40 | 143 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| METHACRYLIC ACID 79-41-4 | 20 | 72 | Time Weighted Average (TWA): | | EH40 WEL |

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 | 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 | |
| Acrylic acid 79-10-7 | aqua (freshwater) | | | | | 0,003 mg/L | |
| Acrylic acid 79-10-7 | aqua (marine water) | | | | | 0,0003 mg/L | |
| Acrylic acid 79-10-7 | aqua (intermittent releases) | | | | | 0,0013 mg/L | |
| Acrylic acid 79-10-7 | 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 | | | | | 0,0023 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 | 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 | |
| Maleic acid 110-16-7 | aqua (freshwater) | | | | | 0,074 mg/L | |
| Maleic acid 110-16-7 | aqua (intermittent releases) | | | | | 0,744 mg/L | |
| Maleic acid 110-16-7 | sediment (freshwater) | | | | | 0,0624 mg/kg | |
| Maleic acid 110-16-7 | STP | | | | | 3,33 mg/L | |

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 bw/day | |
| 2-Hydroxyethyl methacrylate 868-77-9 | Workers | Inhalation | Long term exposure - systemic effects | | 4,9 mg/m ³ | |
| 2-Hydroxyethyl methacrylate 868-77-9 | general population | Dermal | Long term exposure - systemic effects | | 0,83 mg/kg bw/day | |
| 2-Hydroxyethyl methacrylate 868-77-9 | general population | Inhalation | Long term exposure - systemic effects | | 2,9 mg/m ³ | |
| 2-Hydroxyethyl methacrylate 868-77-9 | general population | oral | Long term exposure - systemic effects | | 0,83 mg/kg bw/day | |
| Acrylic acid 79-10-7 | Workers | Inhalation | Long term exposure - local effects | | 30 mg/m ³ | |
| Acrylic acid 79-10-7 | Workers | Inhalation | Acute/short term exposure - local effects | | 30 mg/m ³ | |
| Acrylic acid 79-10-7 | Workers | Dermal | Acute/short term exposure - local effects | | 1 mg/cm ² | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | Dermal | Long term exposure - systemic effects | | 4,2 mg/kg bw/day | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | Workers | Inhalation | Long term exposure - systemic effects | | 14,7 mg/m ³ | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | general population | Dermal | Long term exposure - systemic effects | | 2,5 mg/kg bw/day | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | general population | Inhalation | Long term exposure - systemic effects | | 8,8 mg/m ³ | |
| Methacrylic acid, monoester with propane-1,2-diol 27813-02-1 | general population | oral | Long term exposure - systemic effects | | 2,5 mg/kg bw/day | |
| Maleic acid 110-16-7 | Workers | Dermal | Acute/short term exposure - local effects | | 0,55 mg/cm ² | |
| Maleic acid 110-16-7 | Workers | Dermal | Long term exposure - local effects | | 0,04 mg/cm ² | |
| Maleic acid 110-16-7 | Workers | Dermal | Acute/short term exposure - systemic effects | | 58 mg/kg bw/day | |
| Maleic acid 110-16-7 | Workers | Dermal | Long term exposure - systemic effects | | 3,3 mg/kg bw/day | |

Biological Exposure Indices:
None**8.2. Exposure controls:**

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

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:

Wear protective glasses.

Skin protection:

Wear suitable protective clothing.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|------------------------------------|
| Appearance | liquid green |
| Odor | characteristic |
| Odour threshold | No data available / Not applicable |
| pH | No data available / Not applicable |
| Initial boiling point | > 148 °C (> 298.4 °F) |
| Flash point | 93,3 °C (199.94 °F) |
| Decomposition temperature | No data available / Not applicable |
| Vapour pressure (26 °C (78.8 °F)) | < 5 mm hg |
| Density () | 1,1 g/cm ³ |
| Bulk density | No data available / Not applicable |
| Viscosity () | 450 - 550 mPa.s |
| Viscosity (kinematic) | No data available / Not applicable |
| Explosive properties | No data available / Not applicable |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| Solubility (qualitative) (Solvent: Acetone) | Soluble |
| Solidification temperature | No data available / Not applicable |
| Melting point | No data available / Not applicable |
| Flammability | No data available / Not applicable |
| Auto-ignition temperature | No data available / Not applicable |
| Explosive limits | No data available / Not applicable |
| Partition coefficient: n-octanol/water | No data available / Not applicable |
| Evaporation rate | No data available / Not applicable |
| Vapor density | No data available / Not applicable |
| Oxidising properties | No data available / Not applicable |

9.2. Other information

No data available / Not applicable

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

Peroxides.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Stable under normal conditions of storage and use.

10.5. Incompatible materials

See section reactivity

10.6. Hazardous decomposition products

carbon oxides.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****General toxicological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

STOT-single exposure:

May cause respiratory irritation.

Oral toxicity:

May cause irritation to the digestive tract.

Skin irritation:

Causes skin irritation.

Eye irritation:

Causes serious eye damage.

Sensitizing:

May cause an allergic skin reaction.

Acute oral toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---|---------------|---------------|-------------------------|------------------|---------|---|
| Acrylic acid 79-10-7 | LD50 | 1.500 mg/kg | oral | | rat | BASF Test |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 2.000 mg/kg | oral | | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Cumene hydroperoxide 80-15-9 | LD50 | 550 mg/kg | oral | | rat | |
| Maleic acid 110-16-7 | LD50 | 708 mg/kg | oral | | rat | |
| Methacrylic acid 79-41-4 | LD50 | 1.320 mg/kg | oral | | rat | OECD Guideline 401 (Acute Oral Toxicity) |

Acute inhalative toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|------------|-------------------------|------------------|---------|---|
| Acrylic acid 79-10-7 | LC50 | > 5,1 mg/l | inhalation | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |
| Methacrylic acid 79-41-4 | LC50 | 4,7 mg/l | inhalation | 4 h | rat | OECD Guideline 403 (Acute Inhalation Toxicity) |

Acute dermal toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---|--|----------------------|-------------------------|------------------|---------|---------------------------|
| Acrylic acid 79-10-7 | LD50 | 640 mg/kg | dermal | | rabbit | BASF Test |
| Hydroxypropyl methacrylate 27813-02-1 | LD50 | > 5.000 mg/kg | dermal | | rabbit | |
| Maleic acid 110-16-7 | LD50 | 1.560 mg/kg | dermal | | rabbit | |
| Methacrylic acid 79-41-4 | Acute toxicity estimate (ATE) | 500 mg/kg | dermal | | | Expert judgement |
| Methacrylic acid 79-41-4 | LD50 | 500 - 1.000 mg/kg | | | rabbit | Dermal Toxicity Screening |

Skin corrosion/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|-------------------------|------------------|---------|---|
| Acrylic acid 79-10-7 | highly corrosive | 3 min | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Cumene hydroperoxide 80-15-9 | corrosive | | rabbit | Draize Test |
| Methacrylic acid 79-41-4 | Category 1A (corrosive) | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|-----------|------------------|---------|-----------|
| Acrylic acid 79-10-7 | corrosive | 21 d | rabbit | BASF Test |

Respiratory or skin sensitization:

| Hazardous components CAS-No. | Result | Test type | Species | Method |
|---------------------------------|-----------------|--------------------------|------------|--------------|
| Acrylic acid 79-10-7 | not sensitising | Skin painting test | guinea pig | |
| Methacrylic acid 79-41-4 | not sensitising | Buehler test | guinea pig | Buehler test |

Germ cell mutagenicity:

| Hazardous components 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) |
| | positive | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| Acrylic acid 79-10-7 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | |
| Cumene hydroperoxide 80-15-9 | positive | bacterial reverse mutation assay (e.g Ames test) | without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Cumene hydroperoxide 80-15-9 | negative | dermal | | mouse | |

Repeated dose toxicity

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|---------------|---------------------------------|---|----------------|---------------|
| Cumene hydroperoxide 80-15-9 | | inhalation: aerosol | 6 h/d 5 d/w | rat | |

SECTION 12: Ecological information**General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity**Ecotoxicity:**

Harmful to aquatic life with long lasting effects.
Do not empty into drains / surface water / ground water.

| Hazardous components CAS-No. | Value type | Value | Acute Toxicity Study | Exposure time | Species | Method |
|--|---------------|------------------|----------------------------|------------------|--|--|
| 2-Hydroxyethyl methacrylate 868-77-9 | LC50 | 227 mg/l | Fish | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | EC50 | 380 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 160 mg/l | Algae | 72 h | Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | EC50 | 345 mg/l | Algae | 72 h | Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| 2-Hydroxyethyl methacrylate 868-77-9 | NOEC | 24,1 mg/l | chronic Daphnia | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Acrylic acid 79-10-7 | LC50 | 27 mg/l | Fish | 96 h | Salmo gairdneri (new name: Oncorhynchus mykiss) | EPA OTS 797.1400 (Fish Acute Toxicity Test) |
| Acrylic acid 79-10-7 | EC10 | 0,03 mg/l | Algae | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | EC50 | 0,13 mg/l | Algae | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Acrylic acid 79-10-7 | NOEC | 19 mg/l | chronic Daphnia | 21 d | Daphnia magna | EPA OTS 797.1330 (Daphnid Chronic Toxicity Test) |
| Hydroxypropyl methacrylate 27813-02-1 | LC50 | 493 mg/l | Fish | 48 h | Leuciscus idus melanotus | DIN 38412-15 |
| Cumene hydroperoxide 80-15-9 | LC50 | 3,9 mg/l | Fish | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Cumene hydroperoxide 80-15-9 | EC50 | 18 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Cumene hydroperoxide 80-15-9 | ErC50 | 3,1 mg/l | Algae | 72 h | Pseudokirchnerella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Maleic acid 110-16-7 | LC50 | > 245 mg/l | Fish | 48 h | Leuciscus idus | DIN 38412-15 |
| Maleic acid 110-16-7 | EC50 | 42,81 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Methacrylic acid 79-41-4 | LC50 | > 100 - 180 mg/l | Fish | 96 h | Brachydanio rerio (new name: Danio rerio) | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Methacrylic acid 79-41-4 | EC50 | > 130 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Methacrylic acid 79-41-4 | EC50 | > 8,2 mg/l | Algae | | | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| | EC10 | 8,2 mg/l | Algae | | | OECD Guideline 201 (Alga, Growth Inhibition Test) |

12.2. Persistence and degradability

Persistence and Biodegradability:

No data available for the product.

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|---------------------------------|--------|-------------------------|---------------|--------|
|---------------------------------|--------|-------------------------|---------------|--------|

| | | | | |
|--|-----------------------|---------|------------|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | readily biodegradable | aerobic | 92 - 100 % | OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)) |
| Acrylic acid 79-10-7 | readily biodegradable | aerobic | 81 % | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Hydroxypropyl methacrylate 27813-02-1 | readily biodegradable | aerobic | 94,2 % | OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test) |
| Cumene hydroperoxide 80-15-9 | | no data | 0 % | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Maleic acid 110-16-7 | readily biodegradable | aerobic | 97,08 % | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Methacrylic acid 79-41-4 | readily biodegradable | aerobic | 86 % | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |

12.3. Bioaccumulative potential / 12.4. Mobility in soil**Mobility:**

Cured adhesives are immobile.

Bioaccumulative potential:

No data available for the product.

| Hazardous components CAS-No. | LogKow | Bioconcentration factor (BCF) | Exposure time | Species | Temperature | Method |
|--|--------|----------------------------------|------------------|-------------|-------------|--|
| Acrylic acid 79-10-7 Acrylic acid 79-10-7 | 0,46 | 3,16 | | | 25 °C | OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method) |
| Hydroxypropyl methacrylate 27813-02-1 | 0,97 | | | | | |
| Cumene hydroperoxide 80-15-9 Cumene hydroperoxide 80-15-9 | 2,16 | 9,1 | | calculation | | OECD Guideline 305 (Bioconcentration: Flow- through Fish Test) |
| Maleic acid 110-16-7 | -1,3 | | | | 20 °C | OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method) |
| Acetic acid, 2- phenylhydrazide 114-83-0 | 0,74 | | | | | |
| Methacrylic acid 79-41-4 | 0,93 | | | | | |

12.5. Results of PBT and vPvB assessment

| Hazardous components CAS-No. | PBT/vPvB |
|--|---|
| 2-Hydroxyethyl methacrylate 868-77-9 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Acrylic acid 79-10-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Hydroxypropyl methacrylate 27813-02-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Maleic acid 110-16-7 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Methacrylic acid 79-41-4 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of in accordance with local and national regulations.

Contribution of this product to waste is very insignificant in comparison to article in which it is used

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

SECTION 14: Transport information

14.1. UN number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

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

14.4. Packaging group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

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

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content < 3 %
(1999/13/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:

- R10 Flammable.
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R21/22 Harmful in contact with skin and if swallowed.
- R23 Toxic by inhalation.
- R34 Causes burns.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
- R50 Very toxic to aquatic organisms.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R7 May cause fire.
- H226 Flammable liquid and vapor.
- H242 Heating may cause a fire.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

Further information:

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.