

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

**Deck-Harz**  
**Size Resin**

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

##### Relevant identified uses of the substance or mixture:

Windscreen repair resin

##### Uses advised against:

No information available at present.

#### 1.3 Details of the supplier of the safety data sheet

LIQUI MOLY GmbH  
Jerg-Wieland-Str. 4  
89081 Ulm-Lehr  
Tel.: (+49) 0731-1420-0  
Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

##### Emergency information services / official advisory body:

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##### Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (LMR)  
+1 872 5888271 (LMR)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) 1272/2008 (CLP)

| Hazard class    | Hazard category | Hazard statement   |
|-----------------|-----------------|--|
| Eye Irrit.      | 2               | H319-Causes serious eye irritation.                        |
| STOT SE         | 3               | H335-May cause respiratory irritation.                     |
| Skin Irrit.     | 2               | H315-Causes skin irritation.                               |
| Skin Sens.      | 1               | H317-May cause an allergic skin reaction.                  |
| Aquatic Acute   | 1               | H400-Very toxic to aquatic life.                           |
| Aquatic Chronic | 1               | H410-Very toxic to aquatic life with long lasting effects. |

#### 2.2 Label elements

##### Labeling according to Regulation (EC) 1272/2008 (CLP)

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### Warning

H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H317-May cause an allergic skin reaction. H410-Very toxic to aquatic life with long lasting effects.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.

P261-Avoid breathing vapours or spray. P271-Use only outdoors or in a well-ventilated area. P273-Avoid release to the environment. P280-Wear protective gloves and eye protection / face protection.

P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312-Call a POISON CENTRE / doctor if you feel unwell.

P405-Store locked up.

P501-Dispose of contents / container to an approved waste disposal facility.

2-hydroxyethyl methacrylate

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate

### 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixtures

| 2-hydroxyethyl methacrylate  |   |
|--|---|
| Registration number (REACH)  | ---   |
| Index  | 607-124-00-X  |
| EINECS, ELINCS, NLP, REACH-IT List-No.                                 | 212-782-2   |
| CAS  | 868-77-9  |
| content %  | 50-60   |
| Classification according to Regulation (EC) 1272/2008 (CLP), M-factors | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317 |

| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate |              |
|---|--------------|
| Registration number (REACH)                         | ---          |
| Index   | 607-756-00-6 |
| EINECS, ELINCS, NLP, REACH-IT List-No.              | 227-561-6    |
| CAS   | 5888-33-5    |
| content %   | 40-50        |

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|   |   |
|---|---|
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b> | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1A, H317<br>STOT SE 3, H335<br>Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 1, H410 (M=1) |
|---|---|

|   |                  |
|---|------------------|
| <b>[3-(2,3-epoxypropoxy)propyl]trimethoxysilane</b>                           |                  |
| <b>Registration number (REACH)</b>  | ---              |
| <b>Index</b>  | ---              |
| <b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>                                 | 219-784-2        |
| <b>CAS</b>  | 2530-83-8        |
| <b>content %</b>  | 1-2,5            |
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b> | Eye Dam. 1, H318 |

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting - give copious water to drink. Consult doctor immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

#### Unsuitable extinguishing media

High volume water jet

### 5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

### 5.3 Advice for firefighters

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

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Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### 6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.  
Ensure sufficient ventilation, remove sources of ignition.  
Avoid dust formation with solid or powder products.  
Leave the danger zone if possible, use existing emergency plans if necessary.  
Ensure sufficient supply of air.  
Avoid contact with eyes or skin.  
If applicable, caution - risk of slipping.

#### 6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions

If leakage occurs, dam up.  
Resolve leaks if this possible without risk.  
Prevent surface and ground-water infiltration, as well as ground penetration.  
Prevent from entering drainage system.  
If accidental entry into drainage system occurs, inform responsible authorities.

### 6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.  
Avoid inhalation of the vapours.  
Avoid contact with eyes or skin.  
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
Observe directions on label and instructions for use.  
Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.  
Wash hands before breaks and at end of work.  
Keep away from food, drink and animal feedingstuffs.  
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.  
Store product closed and only in original packing.  
Not to be stored in gangways or stair wells.  
Do not store with oxidizing agents.  
Store in a well-ventilated place.  
Protect from direct sunlight and warming.  
Protect from frost.  
Store in a dry place.

### 7.3 Specific end use(s)

No information available at present.  
Observe the instructions for good working practice and the recommendations for risk assessment.  
Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries, depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

## SECTION 8: Exposure controls/personal protection

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## 8.1 Control parameters

| 2-hydroxyethyl methacrylate |  |                             |            |       |                   |      |
|-----------------------------|--|-----------------------------|------------|-------|-------------------|------|
| Area of application         | Exposure route / Environmental compartment           | Effect on health            | Descriptor | Value | Unit              | Note |
|                             | Environment - water                                  |                             | PNEC       | 0,482 | mg/kg             |      |
|                             | Environment - water, sporadic (intermittent) release |                             | PNEC       | 1     | mg/l              |      |
|                             | Environment - marine                                 |                             | PNEC       | 0,482 | mg/l              |      |
|                             | Environment - sewage treatment plant                 |                             | PNEC       | 10    | mg/l              |      |
|                             | Environment - sediment, freshwater                   |                             | PNEC       | 3,79  | mg/kg             |      |
|                             | Environment - sediment, marine                       |                             | PNEC       | 3,79  | mg/kg             |      |
|                             | Environment - soil                                   |                             | PNEC       | 0,476 | mg/kg             |      |
| Consumer                    | Human - oral   | Long term, systemic effects | DNEL       | 0,83  | mg/kg bw/day      |      |
| Consumer                    | Human - dermal                                       | Long term, systemic effects | DNEL       | 0,83  | mg/kg bw/day      |      |
| Consumer                    | Human - inhalation                                   | Long term, systemic effects | DNEL       | 2,9   | mg/m <sup>3</sup> |      |
| Workers / employees         | Human - inhalation                                   | Long term                   | DNEL       | 4,9   | mg/m <sup>3</sup> |      |
| Workers / employees         | Human - dermal                                       | Long term                   | DNEL       | 1,3   | mg/kg bw/d        |      |

| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate |  |                             |            |       |                   |      |
|---|--|-----------------------------|------------|-------|-------------------|------|
| Area of application                                 | Exposure route / Environmental compartment           | Effect on health            | Descriptor | Value | Unit              | Note |
|   | Environment - freshwater                             |                             | PNEC       | 0,001 | mg/l              |      |
|   | Environment - marine                                 |                             | PNEC       | 0     | mg/l              |      |
|   | Environment - sediment, freshwater                   |                             | PNEC       | 0,145 | mg/kg dw          |      |
|   | Environment - sediment, marine                       |                             | PNEC       | 0,015 | mg/kg dw          |      |
|   | Environment - soil                                   |                             | PNEC       | 0,029 | mg/kg dw          |      |
|   | Environment - sewage treatment plant                 |                             | PNEC       | 2     | mg/l              |      |
|   | Environment - water, sporadic (intermittent) release |                             | PNEC       | 0,007 | mg/l              |      |
| Consumer  | Human - inhalation                                   | Long term, systemic effects | DNEL       | 1,45  | mg/m <sup>3</sup> |      |
| Consumer  | Human - dermal                                       | Long term, systemic effects | DNEL       | 0,83  | mg/kg bw/d        |      |
| Consumer  | Human - oral   | Long term, systemic effects | DNEL       | 0,83  | mg/kg bw/d        |      |
| Workers / employees                                 | Human - inhalation                                   | Long term, systemic effects | DNEL       | 4,9   | mg/m <sup>3</sup> |      |
| Workers / employees                                 | Human - dermal                                       | Long term, systemic effects | DNEL       | 1,39  | mg/kg bw/d        |      |

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane

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| Area of application | Exposure route / Environmental compartment           | Effect on health             | Descriptor | Value | Unit              | Note |
|---------------------|--|------------------------------|------------|-------|-------------------|------|
|                     | Environment - freshwater                             |                              | PNEC       | 0,45  | mg/l              |      |
|                     | Environment - marine                                 |                              | PNEC       | 0,045 | mg/l              |      |
|                     | Environment - water, sporadic (intermittent) release |                              | PNEC       | 1     | mg/l              |      |
|                     | Environment - sediment                               |                              | PNEC       | 0,79  | mg/kg dry weight  |      |
|                     | Environment - soil                                   |                              | PNEC       | 0,063 | mg/kg dry weight  |      |
|                     | Environment - sewage treatment plant                 |                              | PNEC       | 8,2   | mg/l              |      |
|                     | Environment - sediment, freshwater                   |                              | PNEC       | 1,6   | mg/kg             |      |
|                     | Environment - sediment, marine                       |                              | PNEC       | 0,16  | mg/kg             |      |
| Consumer            | Human - dermal                                       | Short term, systemic effects | DNEL       | 12,5  | mg/kg bw/d        |      |
| Consumer            | Human - inhalation                                   | Short term, systemic effects | DNEL       | 43,5  | mg/m <sup>3</sup> |      |
| Consumer            | Human - oral   | Long term, systemic effects  | DNEL       | 5     | mg/kg bw/day      |      |
| Consumer            | Human - dermal                                       | Long term, systemic effects  | DNEL       | 5     | mg/kg bw/day      |      |
| Consumer            | Human - inhalation                                   | Long term, systemic effects  | DNEL       | 17    | mg/m <sup>3</sup> |      |
| Workers / employees | Human - inhalation                                   | Long term, systemic effects  | DNEL       | 70    | mg/m <sup>3</sup> |      |
| Workers / employees | Human - dermal                                       | Short term, systemic effects | DNEL       | 21    | mg/kg bw/day      |      |
| Workers / employees | Human - inhalation                                   | Short term, systemic effects | DNEL       | 147   | mg/m <sup>3</sup> |      |
| Workers / employees | Human - dermal                                       | Long term, systemic effects  | DNEL       | 10    | mg/kg bw/day      |      |

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
 Applies only if maximum permissible exposure values are listed here.

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.  
 Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:  
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:  
 Chemical resistant protective gloves (EN ISO 374).  
 Recommended  
 Protective gloves in butyl rubber (EN ISO 374).  
 Protective Neoprene® / polychloroprene gloves (EN ISO 374).  
 Minimum layer thickness in mm:  
 0,5  
 Protective gloves made of fluorocarbon rubber (EN ISO 374).  
 Minimum layer thickness in mm:  
 0,4

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Permeation time (penetration time) in minutes:

>= 480

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Usual protective working garments

Respiratory protection:

Normally not necessary.

If OES or MEL is exceeded.

Filter A P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |  |
|---|--|
| Physical state:   | Liquid   |
| Colour:   | Clear  |
| Odour:  | Characteristic                                       |
| Melting point/freezing point:                             | There is no information available on this parameter. |
| Boiling point or initial boiling point and boiling range: | There is no information available on this parameter. |
| Flammability:   | Flammable  |
| Lower explosion limit:                                    | There is no information available on this parameter. |
| Upper explosion limit:                                    | There is no information available on this parameter. |
| Flash point:  | >100 °C  |
| Auto-ignition temperature:                                | There is no information available on this parameter. |
| Decomposition temperature:                                | There is no information available on this parameter. |
| pH:   | Mixture is non-soluble (in water).                   |
| Kinematic viscosity:                                      | <=20,5 mm <sup>2</sup> /s (40°C)                     |
| Solubility:   | Insoluble  |
| Partition coefficient n-octanol/water (log value):        | Does not apply to mixtures.                          |
| Vapour pressure:  | There is no information available on this parameter. |
| Density and/or relative density:                          | There is no information available on this parameter. |
| Relative vapour density:                                  | There is no information available on this parameter. |
| Particle characteristics:                                 | Does not apply to liquids.                           |

### 9.2 Other information

|                    |                           |
|--------------------|---------------------------|
| Explosives:        | Product is not explosive. |
| Oxidising liquids: | No                        |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Polymerisation due to high heat is possible.

### 10.2 Chemical stability

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Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

See also section 7.

UV-light

Protect from direct sunlight.

Keep away from heat.

Protect from frost.

Protect from humidity.

### 10.5 Incompatible materials

See also section 7.

Avoid contact with strong alkalis.

Avoid contact with strong oxidizing agents.

Avoid contact with strong acids.

### 10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

| Deck-Harz<br>Size Resin                                       |          |       |      |          |             |        |
|---|----------|-------|------|----------|-------------|--------|
| Toxicity / effect   | Endpoint | Value | Unit | Organism | Test method | Notes  |
| Acute toxicity, by oral route:                                |          |       |      |          |             | n.d.a. |
| Acute toxicity, by dermal route:                              |          |       |      |          |             | n.d.a. |
| Acute toxicity, by inhalation:                                |          |       |      |          |             | n.d.a. |
| Skin corrosion/irritation:                                    |          |       |      |          |             | n.d.a. |
| Serious eye damage/irritation:                                |          |       |      |          |             | n.d.a. |
| Respiratory or skin sensitisation:                            |          |       |      |          |             | n.d.a. |
| Germ cell mutagenicity:                                       |          |       |      |          |             | n.d.a. |
| Carcinogenicity:  |          |       |      |          |             | n.d.a. |
| Reproductive toxicity:  |          |       |      |          |             | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE):   |          |       |      |          |             | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): |          |       |      |          |             | n.d.a. |
| Aspiration hazard:  |          |       |      |          |             | n.d.a. |
| Symptoms:   |          |       |      |          |             | n.d.a. |

| 2-hydroxyethyl methacrylate        |          |       |       |            |               |  |
|------------------------------------|----------|-------|-------|------------|---------------|--|
| Toxicity / effect                  | Endpoint | Value | Unit  | Organism   | Test method   | Notes  |
| Acute toxicity, by oral route:     | LD50     | 5050  | mg/kg | Rat        |               |  |
| Acute toxicity, by dermal route:   | LD50     | >3000 | mg/kg | Rabbit     |               |  |
| Serious eye damage/irritation:     |          |       |       | Rabbit     | (Draize-Test) | Eye Irrit. 2   |
| Respiratory or skin sensitisation: |          |       |       | Guinea pig |               | Skin Sens. 1   |
| Symptoms:                          |          |       |       |            |               | breathing difficulties, coughing, mucous membrane irritation |

| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate |          |       |       |          |             |       |
|---|----------|-------|-------|----------|-------------|-------|
| Toxicity / effect                                   | Endpoint | Value | Unit  | Organism | Test method | Notes |
| Acute toxicity, by oral route:                      | LD50     | 4350  | mg/kg | Rat      |             |       |
| Acute toxicity, by dermal route:                    | LD50     | >2000 | mg/kg | Rabbit   |             |       |





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|  |  |  |  |  |  |  |   |
|--|--|--|--|--|--|--|---|
| 12.2. Persistence and degradability:     |  |  |  |  |  |  | n.d.a.  |
| 12.3. Bioaccumulative potential:         |  |  |  |  |  |  | n.d.a.  |
| 12.4. Mobility in soil:                  |  |  |  |  |  |  | n.d.a.  |
| 12.5. Results of PBT and vPvB assessment |  |  |  |  |  |  | n.d.a.  |
| 12.6. Endocrine disrupting properties:   |  |  |  |  |  |  | Does not apply to mixtures.   |
| 12.7. Other adverse effects:             |  |  |  |  |  |  | No information available on other adverse effects on the environment. |

#### 2-hydroxyethyl methacrylate

| Toxicity / effect                        | Endpoint  | Time | Value | Unit | Organism                  | Test method   | Notes                                     |
|--|-----------|------|-------|------|---------------------------|---|---|
| 12.1. Toxicity to fish:                  | LC50      | 96h  | 227   | mg/l | Pimephales promelas       | OECD 203 (Fish, Acute Toxicity Test)                                    |   |
| 12.1. Toxicity to daphnia:               | EC50      | 48h  | 380   | mg/l | Daphnia magna             | OECD 202 (Daphnia sp. Acute Immobilisation Test)                        |   |
| 12.1. Toxicity to daphnia:               | NOEC/NOEL | 21d  | 24,1  | mg/l | Daphnia magna             | OECD 202 (Daphnia sp. Acute Immobilisation Test)                        |   |
| 12.1. Toxicity to algae:                 | EC50      | 72h  | 345   | mg/l | Selenastrum capricornutum | OECD 201 (Alga, Growth Inhibition Test)                                 |   |
| 12.2. Persistence and degradability:     |           | 28d  | 84    | %    |                           | OECD 301 D (Ready Biodegradability - Closed Bottle Test)                | Readily biodegradable                     |
| 12.3. Bioaccumulative potential:         | Log Pow   |      | 0,47  |      |                           | OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method) | Bioaccumulation is unlikely (LogPow < 1). |
| 12.5. Results of PBT and vPvB assessment |           |      |       |      |                           |   | No PBT substance, No vPvB substance       |
| Toxicity to bacteria:                    | EC20      | 16h  | >3000 | mg/l | Pseudomonas fluorescens   |   |   |

#### Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate

| Toxicity / effect          | Endpoint  | Time | Value | Unit | Organism                        | Test method                                | Notes |
|----------------------------|-----------|------|-------|------|---------------------------------|--|-------|
| 12.1. Toxicity to fish:    | LC50      | 96h  | 0,704 | mg/l | Brachydanio rerio               | OECD 203 (Fish, Acute Toxicity Test)       |       |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d  | 0,092 | mg/l | Daphnia magna                   | OECD 211 (Daphnia magna Reproduction Test) |       |
| 12.1. Toxicity to algae:   | EC50      | 72h  | 1,98  | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test)    |       |

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|  |  |     |    |   |  |  |                                     |
|--|--|-----|----|---|--|--|-------------------------------------|
| 12.2. Persistence and degradability:     |  | 28d | 57 | % |  | OECD 310 (Ready Biodegradability - CO <sub>2</sub> in sealed vessels (Headspace Test)) | Not readily biodegradable           |
| 12.5. Results of PBT and vPvB assessment |  |     |    |   |  |  | No PBT substance, No vPvB substance |

| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane |           |      |       |      |                                 |  |                                     |
|--|-----------|------|-------|------|---------------------------------|--|-------------------------------------|
| Toxicity / effect                            | Endpoint  | Time | Value | Unit | Organism                        | Test method  | Notes                               |
| 12.1. Toxicity to fish:                      | LC50      | 96h  | 55    | mg/l | Cyprinus carpio                 | Regulation (EC) 440/2008 C.1 (ACUTE TOXICITY FOR FISH)                                   |                                     |
| 12.1. Toxicity to algae:                     | EC50      | 96h  | 350   | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test)  |                                     |
| 12.2. Persistence and degradability:         |           |      | 6,5   | h    |                                 |  | Half-life pH = 7, 24.5 °C           |
| hydrolysis                                   |           |      |       |      |                                 |  |                                     |
| 12.2. Persistence and degradability:         |           |      | 0,15  | h    |                                 |  | Half-life pH = 5, 24.5 °C           |
| hydrolysis                                   |           |      |       |      |                                 |  |                                     |
| 12.2. Persistence and degradability:         |           |      | 0,13  | h    |                                 |  | Half-life pH = 9, 24.5 °C           |
| hydrolysis                                   |           |      |       |      |                                 |  |                                     |
| 12.5. Results of PBT and vPvB assessment     |           |      |       |      |                                 |  | No PBT substance, No vPvB substance |
| Toxicity to bacteria:                        | NOEC/NOEL | 3h   | > 100 | mg/l | activated sludge                | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) |                                     |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. dispose at suitable refuse site.

E.g. suitable incineration plant.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Untampered packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

15 01 10 packaging containing residues of or contaminated by hazardous substances

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## SECTION 14: Transport information

### General statements

#### Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: 3082  
 14.2. UN proper shipping name:  
 UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EXO-1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPT-2-YL-ACETATE)  
 14.3. Transport hazard class(es): 9  
 14.4. Packing group: III  
 14.5. Environmental hazards: environmentally hazardous  
 Tunnel restriction code: -  
 Classification code: M6  
 LQ: 5 L  
 Transport category: 3



#### Transport by sea (IMDG-code)

14.1. UN number or ID number: 3082  
 14.2. UN proper shipping name:  
 UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EXO-1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPT-2-YL-ACETATE)  
 14.3. Transport hazard class(es): 9  
 14.4. Packing group: III  
 14.5. Environmental hazards: environmentally hazardous  
 Marine Pollutant: Yes  
 EmS: F-A, S-F



#### Transport by air (IATA)

14.1. UN number or ID number: 3082  
 14.2. UN proper shipping name:  
 UN 3082 Environmentally hazardous substance, liquid, n.o.s. (EXO-1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPT-2-YL-ACETATE)  
 14.3. Transport hazard class(es): 9  
 14.4. Packing group: III  
 14.5. Environmental hazards: environmentally hazardous



#### 14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.  
 All persons involved in transporting must observe safety regulations.  
 Precautions must be taken to prevent damage.

#### 14.7. Maritime transport in bulk according to IMO instruments

Freight as packaged goods rather than in bulk, therefore not applicable.  
 Minimum amount regulations have not been taken into account.  
 Danger code and packing code on request.  
 Comply with special provisions.

## SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!  
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

| Hazard categories | Notes to Annex I | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements |
|-------------------|------------------|---|---|
| E1                |                  | 100   | 200   |

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when

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assigning categories and qualifying quantities.

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

## 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections: 3  
 Employee training in handling dangerous goods is required.  
 These details refer to the product as it is delivered.  
 Employee instruction/training in handling hazardous materials is required.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used                             |
|---|--|
| Eye Irrit. 2, H319  | Classification according to calculation procedure. |
| STOT SE 3, H335   | Classification according to calculation procedure. |
| Skin Irrit. 2, H315   | Classification according to calculation procedure. |
| Skin Sens. 1, H317  | Classification according to calculation procedure. |
| Aquatic Acute 1, H400   | Classification according to calculation procedure. |
| Aquatic Chronic 1, H410   | Classification according to calculation procedure. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H317 May cause an allergic skin reaction.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.

Eye Irrit. — Eye irritation  
 STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation  
 Skin Irrit. — Skin irritation  
 Skin Sens. — Skin sensitization  
 Aquatic Acute — Hazardous to the aquatic environment - acute  
 Aquatic Chronic — Hazardous to the aquatic environment - chronic  
 Eye Dam. — Serious eye damage

### Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.  
 Guidelines for the preparation of safety data sheets as amended (ECHA).  
 Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).  
 Safety data sheets for the constituent substances.  
 ECHA Homepage - Information about chemicals.  
 GESTIS Substance Database (Germany).  
 German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).  
 EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.  
 National Lists of Occupational Exposure Limits for each country as amended.

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Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to  
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 AOX Adsorbable organic halogen compounds  
 approx. approximately  
 Art., Art. no. Article number  
 ASTM ASTM International (American Society for Testing and Materials)  
 ATE Acute Toxicity Estimate  
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)  
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)  
 BCF Bioconcentration factor  
 BSEF The International Bromine Council  
 bw body weight  
 CAS Chemical Abstracts Service  
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)  
 CMR carcinogenic, mutagenic, reproductive toxic  
 DMEL Derived Minimum Effect Level  
 DNEL Derived No Effect Level  
 DOC Dissolved organic carbon  
 dw dry weight  
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
 EbCx, EyCx, Eblx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)  
 EC European Community  
 ECHA European Chemicals Agency  
 ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect  
 EEC European Economic Community  
 EINECS European Inventory of Existing Commercial Chemical Substances  
 ELINCS European List of Notified Chemical Substances  
 EN European Norms  
 EPA United States Environmental Protection Agency (United States of America)  
 ErCx, E<sub>p</sub>Cx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)  
 etc. et cetera  
 EU European Union  
 EVAL Ethylene-vinyl alcohol copolymer  
 Fax. Fax number  
 gen. general  
 GHS Globally Harmonized System of Classification and Labelling of Chemicals  
 GWP Global warming potential  
 Koc Adsorption coefficient of organic carbon in the soil  
 Kow octanol-water partition coefficient  
 IARC International Agency for Research on Cancer  
 IATA International Air Transport Association  
 IBC (Code) International Bulk Chemical (Code)  
 IMDG-code International Maritime Code for Dangerous Goods  
 incl. including, inclusive  
 IUCLID International Uniform Chemical Information Database  
 IUPAC International Union for Pure Applied Chemistry  
 LC50 Lethal Concentration to 50 % of a test population  
 LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)  
 Log Koc Logarithm of adsorption coefficient of organic carbon in the soil  
 Log Kow, Log Pow Logarithm of octanol-water partition coefficient  
 LQ Limited Quantities  
 MARPOL International Convention for the Prevention of Marine Pollution from Ships  
 n.a. not applicable  
 n.av. not available  
 n.c. not checked  
 n.d.a. no data available

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NIOSH National Institute for Occupational Safety and Health (USA)  
NLP No-longer-Polymer  
NOEC, NOEL No Observed Effect Concentration/Level  
OECD Organisation for Economic Co-operation and Development  
org. organic  
OSHA Occupational Safety and Health Administration (USA)  
PBT persistent, bioaccumulative and toxic  
PE Polyethylene  
PNEC Predicted No Effect Concentration  
ppm parts per million  
PVC Polyvinylchloride  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC Substances of Very High Concern  
Tel. Telephone  
TOC Total organic carbon  
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods  
VOC Volatile organic compounds  
vPvB very persistent and very bioaccumulative  
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.  
No responsibility.

These statements were made by:

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