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

Rueckspiegel-Klebeset

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Anaerobic adhesive sealant
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:

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.

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)

Warning

H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H317-May cause an allergic skin reaction.

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. P280-Wear protective gloves and eye protection / face protection.
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
Methacrylic acid, monoester with propane-1,2-diol
tert.-Butylhydroperoxide

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)	01-2119490169-29-XXXX
Index	607-124-00-X
EINECS, ELINCS, NLP, REACH-IT List-No.	212-782-2
CAS	868-77-9
content %	20-40
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317

Exo-1,7,7-trimethylbicyclo-[2.2.1]hept-2-yl methacrylate	
Registration number (REACH)	01-2119886505-27-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	231-403-1
CAS	7534-94-3
content %	20-30
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412

Specific Concentration Limits and ATE	STOT SE 3, H335: >=10 %

Methacrylic acid, monoester with propane-1,2-diol	
Registration number (REACH)	01-2119490226-37-XXXX
Index	607-125-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	248-666-3
CAS	27813-02-1
content %	1-10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Irrit. 2, H319 Skin Sens. 1, H317

Acrylic acid	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119452449-31-XXXX
Index	607-061-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	201-177-9
CAS	79-10-7
content %	1-2,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1)
Specific Concentration Limits and ATE	STOT SE 3, H335: >=1 %

tert.-Butylhydroperoxide	
Registration number (REACH)	---
Index	617-023-00-2
EINECS, ELINCS, NLP, REACH-IT List-No.	200-915-7
CAS	75-91-2
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Org. Perox. Type E, H242 Acute Tox. 2, H330 Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411
Specific Concentration Limits and ATE	Eye Dam. 1, H318: >=1 % Skin Sens. 1, H317: >=0,1 % STOT SE 3, H335: >=5 %

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
CO2
Extinction powder
Foam

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:
Oxides of carbon
Toxic gases

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.
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 inhalation, and 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 from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.

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 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.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Do not store with oxidizing agents.
Protect from direct sunlight and warming.
Store in a dry place.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB **Chemical Name**	Acrylic acid	Content %:1-2,5
WEL-TWA: 10ppm (29 mg/m3) (WEL, EU)	WEL-STEL: 20 ppm (59 mg/m3) (10) (WEL, EU)	---
Monitoring procedures:	- Draeger - Acid Test (81 01 121)	
BMGV: ---	Other information: ---	

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/m3	
Workers / employees	Human - inhalation	Long term	DNEL	4,9	mg/m3	
Workers / employees	Human - dermal	Long term	DNEL	1,3	mg/kg bw/d	

Exo-1,7,7-trimethylbicyclo-[2.2.1]hept-2-yl methacrylate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	4,66	µg/l	
	Environment - sediment, freshwater		PNEC	0,604	mg/kg	
	Environment - soil		PNEC	0,118	mg/kg	
	Environment - sewage treatment plant		PNEC	2,45	mg/l	

Methacrylic acid, monoester with propane-1,2-diol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,904	mg/l	
	Environment - marine		PNEC	0,904	mg/l	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,972	mg/l	
	Environment - sediment, freshwater		PNEC	6,28	mg/kg	
	Environment - sediment, marine		PNEC	6,28	mg/kg	
	Environment - soil		PNEC	0,727	mg/kg	
Consumer	Human - dermal	Long term	DNEL	2,5	mg/kg	
Consumer	Human - inhalation	Long term	DNEL	8,8	mg/m3	
Consumer	Human - oral	Long term	DNEL	2,5	mg/kg	
Workers / employees	Human - dermal	Long term	DNEL	4,2	mg/kg	
Workers / employees	Human - inhalation	Long term	DNEL	14,7	mg/m3	

Acrylic acid						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,003	mg/l	
	Environment - marine		PNEC	0,0003	mg/l	
	Environment - groundwater		PNEC	0,0013	mg/l	
	Environment - sewage treatment plant		PNEC	0,9	mg/l	
	Environment - sediment, freshwater		PNEC	0,0236	mg/kg dw	
	Environment - soil		PNEC	1	mg/kg dw	
	Environment - oral (animal feed)		DNEL	30	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	3,6	mg/m3	
Consumer	Human - dermal	Short term, local effects	DNEL	1	mg/cm2	
Consumer	Human - inhalation	Short term, local effects	DNEL	3,6	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	30	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	30	mg/m3	
Workers / employees	Human - dermal	Short term, local effects	DNEL	1	mg/cm2	

tert.-Butylhydroperoxide

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,0015	mg/l	
	Environment - sediment, freshwater		PNEC	0,00621	mg/kg dry weight	
	Environment - sewage treatment plant		PNEC	0,17	mg/l	
	Environment - marine		PNEC	0,00015	mg/l	
	Environment - soil		PNEC	0,00036	mg/kg dry weight	
	Environment - oral (animal feed)		PNEC	1,4	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,75	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,91	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,26	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	7,5	mg/kg bw/d	
Consumer	Human - inhalation	Short term, local effects	DNEL	12,8	mg/m3	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	3,2	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,83	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	10,4	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	21,3	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	12,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,1	mg/m3	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

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.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. EN 14042.
EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

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:
Protective gloves in butyl rubber (EN ISO 374).
Protective gloves made of chloroprene (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
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:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
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:	Light yellow, 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:	n.a.
Upper explosion limit:	n.a.
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:	There is no information available on this parameter.
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
The product has not been tested.

10.2 Chemical stability
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.
Effects of light as well as warmth.
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).

Rueckspiegel-Klebeset						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value, Aerosol
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 methacrylate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>3000	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit		Mild irritant, Does not conform with EU classification.
Serious eye damage/irritation:						Not irritant, Does not conform with EU classification.
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizising
Reproductive toxicity:	NOAEL	>=500	mg/kg bw/d	Rat		
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	25	mg/kg	Rat		OECD 421

Methacrylic acid, monoester with propane-1,2-diol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Skin corrosion/irritation:				Rabbit	(Draize-Test)	Not irritant
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Human being		Skin Sens. 1
Respiratory or skin sensitisation:						Yes (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Reproductive toxicity:					OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	300	mg/kg	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						No, Analogous conclusion

Acrylic acid

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	617-1405	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	

Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Corrosive
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						respiratory distress, coughing, cramps, laryngeal oedema

11.2. Information on other hazards

Rueckspiegel-Klebeset						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Endocrine disrupting properties:						Does not apply to mixtures.
Other information:						No other relevant information available on adverse effects on health.

SECTION 12: Ecological information

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

Rueckspiegel-Klebeset							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
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.
Other information:							According to the recipe, contains no AOX.
Other information:							DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a.

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 methacrylate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1,79	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,233	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	>2,57	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	2,28	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	70	%		OECD 310 (Ready Biodegradability - CO2 in sealed vessels (Headspace Test))	

Methacrylic acid, monoester with propane-1,2-diol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	48h	493	mg/l	Leuciscus idus	DIN 38412 T.15	
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	24,1-45,2	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>97,2	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	97,2	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	94,2	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	Anaerobe decomposition:, Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,97				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	16h	>1140	mg/l	Pseudomonas putida		

Acrylic acid							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	27	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	19	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.2. Persistence and degradability:		21d	81	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

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. suitable incineration plant.
E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements

14.1. UN number or ID number: n.a.

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Classification code: n.a.
LQ: n.a.
14.5. Environmental hazards: Not applicable
Tunnel restriction code:

Transport by sea (IMDG-code)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
Marine Pollutant: n.a
14.5. Environmental hazards: Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:
14.3. Transport hazard class(es): n.a.
14.4. Packing group: n.a.
14.5. Environmental hazards: Not applicable

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

14.7. Maritime transport in bulk according to IMO instruments

Non-dangerous material according to Transport Regulations.

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 2010/75/EU (VOC): 7,7 %

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 1-16
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.

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).
H330 Fatal if inhaled.
H314 Causes severe skin burns and eye damage.
H242 Heating may cause a fire.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
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.
H341 Suspected of causing genetic defects.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful 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 Chronic — Hazardous to the aquatic environment - chronic
Flam. Liq. — Flammable liquid
Acute Tox. — Acute toxicity - oral
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - inhalation
Skin Corr. — Skin corrosion
Eye Dam. — Serious eye damage
Aquatic Acute — Hazardous to the aquatic environment - acute
Org. Perox. — Organic peroxide
Muta. — Germ cell mutagenicity

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.
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, EμCx, 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
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development
org. organic
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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