

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-Klebe-Set 1 mL
Art.: 6194

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

GB

LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany
Phone:(+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)

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)

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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.

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 special waste collection point.

2-Hydroxyethyl methacrylate
 hydroxypropyl methacrylate (isomers mixture)
 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 %).

SECTION 3: Composition/information on ingredients

3.1 Substance

n.a.

3.2 Mixture

2-Hydroxyethyl methacrylate	
Registration number (REACH)	01-2119490169-29-XXXX
Index	607-124-00-X
EINECS, ELINCS, NLP	212-782-2
CAS	868-77-9
content %	20-40
Classification according to Regulation (EC) 1272/2008 (CLP)	Eye Irrit. 2, H319 Skin Irrit. 2, H315 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	231-403-1
CAS	7534-94-3
content %	20-30
Classification according to Regulation (EC) 1272/2008 (CLP)	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412

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hydroxypropyl methacrylate (isomers mixture)	
Registration number (REACH)	01-2119490226-37-XXXX
Index	607-125-00-5
EINECS, ELINCS, NLP	248-666-3
CAS	27813-02-1
content %	1-10
Classification according to Regulation (EC) 1272/2008 (CLP)	Eye Irrit. 2, H319 Skin Sens. 1, H317

Acrylic acid	Substance for which an EU exposure limit value applies. Substance with specific conc. limit(s) acc. to REACH- registration
Registration number (REACH)	01-2119452449-31-XXXX
Index	607-061-00-8
EINECS, ELINCS, NLP	201-177-9
CAS	79-10-7
content %	1-2,5
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1A, H314 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Eye Dam. 1, H318

tert.-Butylhydroperoxide	Substance with specific conc. limit(s) acc. to REACH- registration
Registration number (REACH)	---
Index	617-023-00-2
EINECS, ELINCS, NLP	200-915-7
CAS	75-91-2
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 Org. Perox. Type E, H242 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1C, H314 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411 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 3.1/3.2 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

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.

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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

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

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.

If applicable, caution - risk of slipping.

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.

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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/m ³) (EU)	WEL-STEL: 20 ppm (59 mg/m ³) (10) (EU)	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

(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 (2017/164/EU). (9) = Respirable fraction (2017/164/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).

(8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/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.

2-Hydroxyethyl methacrylate						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - water		PNEC	0,482	mg/kg	
Workers / employees	Human - inhalation	Long term	DNEL	4,9	mg/m ³	
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	

Acrylic acid

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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/m ³	
Consumer	Human - dermal	Short term, local effects	DNEL	1	mg/cm ²	
Consumer	Human - inhalation	Short term, local effects	DNEL	3,6	mg/m ³	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	30	mg/m ³	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	30	mg/m ³	
Workers / employees	Human - dermal	Short term, local effects	DNEL	1	mg/cm ²	

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/m ³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,91	mg/m ³	
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/m ³	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	3,2	mg/m ³	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,83	mg/m ³	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	10,4	mg/m ³	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	21,3	mg/m ³	
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/m ³	

hydroxypropyl methacrylate (isomers mixture)

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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/m ³	
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/m ³	

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 374).

Safety gloves made of chloroprene (EN 374).

Minimum layer thickness in mm:

0,5

Safety gloves made of fluorocarbon rubber (EN 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 374 Part 3 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.

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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
Odour threshold:	Not determined
pH-value:	n.a.
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	>100 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	n.a.
Lower explosive limit:	n.a.
Upper explosive limit:	n.a.
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	Not determined
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Product is not explosive.
Oxidising properties:	No

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

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.

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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 toxicological effects

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

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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)	Irritant
Respiratory or skin sensitisation:				Guinea pig		Sensitising (skin contact)
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.

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Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizing
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	25	mg/kg	Rat		OECD 421

hydroxypropyl methacrylate (isomers mixture)						
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:						Yes (skin contact)
Respiratory or skin sensitisation:				Human being		Skin Sens. 1
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)	
Acute toxicity, by dermal route:	LD50	294-997,5	mg/kg	Rabbit		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Corrosive
Respiratory or skin sensitisation:						No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:				Mouse		Negative
Reproductive toxicity:	NOAEL	240	mg/kg	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	

SECTION 12: Ecological information

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

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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. Other adverse effects:							n.d.a.
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)	

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12.1. Toxicity to daphnia:	EC50	48h	>2,57	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation 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 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 - CO ₂ in sealed vessels (Headspace Test))	

hydroxypropyl methacrylate (isomers mixture)

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:	EC50	48h	95	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	19	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,13		Desmodesmus subspicatus		

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12.2. Persistence and degradability:		21d	81	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	
12.3. Bioaccumulative potential:	Log Koc		0,46			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Water solubility:							Soluble

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: 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

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14.6. Special precautions for user

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

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

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 maternity protection and the protection of young people at work!

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:

2, 3, 4, 8, 11, 12, 15

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.

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

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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
 Aquatic Acute — Hazardous to the aquatic environment - acute
 Eye Dam. — Serious eye damage
 Org. Perox. — Organic peroxide
 Muta. — Germ cell mutagenicity

Any abbreviations and acronyms used in this document:

AC Article Categories
 acc., acc. to according, according to
 ACGIH American Conference of Governmental Industrial Hygienists
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOEL Acceptable Operator Exposure Level
 AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
 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
 BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
 BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
 BMGV Biological monitoring guidance value (EH40, UK)
 BOD Biochemical oxygen demand
 BSEF Bromine Science and Environmental Forum
 bw body weight
 CAS Chemical Abstracts Service
 CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
 CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
 CIPAC Collaborative International Pesticides Analytical Council
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 COD Chemical oxygen demand
 CTFA Cosmetic, Toiletry, and Fragrance Association
 DMEL Derived Minimum Effect Level
 DNEL Derived No Effect Level
 DOC Dissolved organic carbon
 DT50 Dwell Time - 50% reduction of start concentration
 DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
 dw dry weight
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
 EC European Community
 ECHA European Chemicals Agency
 EEA European Economic Area
 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)
 ERC Environmental Release Categories
 ES Exposure scenario
 etc. et cetera
 EU European Union

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EWC European Waste Catalogue
 Fax. Fax number
 gen. general
 GHS Globally Harmonized System of Classification and Labelling of Chemicals
 GWP Global warming potential
 HET-CAM Hen's Egg Test - Chorionallantoic Membrane
 HGWP Halocarbon Global Warming Potential
 IARC International Agency for Research on Cancer
 IATA International Air Transport Association
 IBC Intermediate Bulk Container
 IBC (Code) International Bulk Chemical (Code)
 IC Inhibitory concentration
 IMDG-code International Maritime Code for Dangerous Goods
 incl. including, inclusive
 IUCLID International Uniform Chemical Information Database
 LC lethal concentration
 LC50 lethal concentration 50 percent kill
 LCLo lowest published lethal concentration
 LD Lethal Dose of a chemical
 LD50 Lethal Dose, 50% kill
 LDLo Lethal Dose Low
 LOAEL Lowest Observed Adverse Effect Level
 LOEC Lowest Observed Effect Concentration
 LOEL Lowest Observed Effect Level
 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
 NIOSH National Institute of Occupational Safety and Health (United States of America)
 NOAEC No Observed Adverse Effective Concentration
 NOAEL No Observed Adverse Effect Level
 NOEC No Observed Effect Concentration
 NOEL No Observed Effect Level
 ODP Ozone Depletion Potential
 OECD Organisation for Economic Co-operation and Development
 org. organic
 PAH polycyclic aromatic hydrocarbon
 PBT persistent, bioaccumulative and toxic
 PC Chemical product category
 PE Polyethylene
 PNEC Predicted No Effect Concentration
 POCP Photochemical ozone creation potential
 ppm parts per million
 PROC Process category
 PTFE Polytetrafluorethylene
 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)
 SADT Self-Accelerating Decomposition Temperature
 SAR Structure Activity Relationship
 SU Sector of use
 SVHC Substances of Very High Concern
 Tel. Telephone
 ThOD Theoretical oxygen demand
 TOC Total organic carbon
 TRGS Technische Regeln für Gefahrstoffe (= Technical Regulations for Hazardous Substances)
 UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
 VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

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VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization

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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