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

Liquimate 2K Power Kleber (A)
Liquimate 2-Component Power Adhesive (A)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Adhesive
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
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
Skin Corr.	1A	H314-Causes severe skin burns and eye damage.
STOT SE	3	H335-May cause respiratory irritation.
Eye Dam.	1	H318-Causes serious eye damage.
Skin Sens.	1	H317-May cause an allergic skin reaction.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

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

Danger

H225-Highly flammable liquid and vapour. H314-Causes severe skin burns and eye damage. H335-May cause respiratory irritation. H317-May cause an allergic skin reaction. H412-Harmful 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.
P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260-Do not breathe vapours or spray.
P271-Use only outdoors or in a well-ventilated area. P280-Wear protective gloves / protective clothing / eye protection / face protection.
P301+P330+P331-IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353-IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310-Immediately call a POISON CENTER / doctor.
P405-Store locked up.
P501-Dispose of contents / container to an approved waste disposal facility.

Methacrylic acid
Methyl methacrylate
2-hydroxyethyl methacrylate
.alpha.,.alpha.-dimethylbenzyl hydroperoxide
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Tosyl chloride
Bis(methacryloyloxyethyl) hydrogen phosphate

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

Methyl methacrylate	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119452498-28-XXXX
Index	607-035-00-6
EINECS, ELINCS, NLP, REACH-IT List-No.	201-297-1
CAS	80-62-6
content %	20-<50
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335

Methacrylic acid	
Registration number (REACH)	01-2119463884-26-XXXX

Index	607-088-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	201-204-4
CAS	79-41-4
content %	5-<10
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H312 Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318
Specific Concentration Limits and ATE	STOT SE 3, H335: >=1 %

Tosyl chloride	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	202-684-8
CAS	98-59-9
content %	2-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Met. Corr. 1, H290 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412

.alpha.,.alpha.-dimethylbenzyl hydroperoxide	
Registration number (REACH)	---
Index	617-002-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	201-254-7
CAS	80-15-9
content %	1-<2
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Org. Perox. Type E, H242 Acute Tox. 3, H331 Acute Tox. 4, H312 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 2, H411
Specific Concentration Limits and ATE	Skin Corr. 1B, H314: >=10 % Skin Irrit. 2, H315: >=3 % Eye Dam. 1, H318: >=3 % Eye Irrit. 2, H319: >=1 % STOT SE 3, H335: >=1 %

2,6-di-tert-butyl-p-cresol	
Registration number (REACH)	01-2119565113-46-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-881-4
CAS	128-37-0
content %	1-<2
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

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 %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	

Registration number (REACH)	---
Index	613-167-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	---
CAS	55965-84-9
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH071 Acute Tox. 2, H310 Acute Tox. 2, H330 Acute Tox. 3, H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
Specific Concentration Limits and ATE	Skin Corr. 1C, H314: >=0,6 % Skin Irrit. 2, H315: >=0,06 % Eye Dam. 1, H318: >=0,6 % Eye Irrit. 2, H319: >=0,06 % Skin Sens. 1A, H317: >=0,0015 %

Cumene	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	---
Index	601-024-00-X
EINECS, ELINCS, NLP, REACH-IT List-No.	202-704-5
CAS	98-82-8
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 3, H226 Carc. 1B, H350 (oral, as inhalation) STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Bis(methacryloyloxyethyl) hydrogen phosphate	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	251-040-2
CAS	32435-46-4
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Dam. 1, H318 Skin Sens. 1B, H317

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.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

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.
Cauterizations not treated lead to wounds difficult to heal.

Eye contact

Remove contact lenses.
Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.
Protect uninjured eye.
Follow-up examination by an ophthalmologist.

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.
Corrosive burns on skin as well as mucous membrane possible.
Risk of serious damage to eyes.
Corneal damage.
Danger of blindness.
Ingestion:
pain in the mouth and throat
stomach pain
Oesophageal perforation
Gastric perforation

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:
Oxides of carbon
Toxic gases
Explosive vapour/air or gas/air mixtures.

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.
Cool container at risk with water.
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.
Keep unprotected persons away.
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 from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
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.
Fill the absorbed material into lockable containers.

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.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
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 flammable or self-igniting materials.
Protect from direct sunlight and warming.
Store in a well ventilated place.
Store cool.
Observe special storage conditions.

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

8.1 Control parameters

GB Chemical Name	Methyl methacrylate	
WEL-TWA: 50 ppm (208 mg/m3) (WEL), 50 ppm (EU)	WEL-STEL: 100 ppm (416 mg/m3) (WEL), 100 ppm (EU)	---
Monitoring procedures:	- Compur - KITA-184 S (548 618) NIOSH 2537 (Methyl and ethyl metacrylate) - 2003 - EU project - BC/CEN/ENTR/000/2002-16 card 109-2 (2004) - OSHA 94 (Methyl Methacrylate) - 1992	
BMGV: ---		Other information: ---

GB Chemical Name	Methacrylic acid	
WEL-TWA: 20 ppm (72 mg/m3)	WEL-STEL: 40 ppm (143 mg/m3)	---
Monitoring procedures:	---	

BMGV: ---	Other information: ---

GB Chemical Name	Tosyl chloride	
WEL-TWA: ---	WEL-STEL: 5 mg/m3	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

GB Chemical Name	2,6-di-tert-butyl-p-cresol	
WEL-TWA: 10 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

GB Chemical Name	Cumene	
WEL-TWA: 125 mg/m3 (25 ppm) (WEL), 50 mg/m3 (10 ppm) (EU)	WEL-STEL: 250 mg/m3 (50 ppm) (WEL, EU)	---
Monitoring procedures:	- NIOSH 1501 (HYDROCARBONS, AROMATIC) - 2003 - OSHA PV2137 (Cumene) - 2004	
BMGV: 7 mg/g creatinine (2-phenyl-2-propanol, urine, sampled within 2 hours post shift, SCOEL/REC/029) (EU)	Other information: Sk	

Methyl methacrylate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,94	mg/l	
	Environment - soil		PNEC	1,47	mg/kg	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - marine		PNEC	0,094	mg/l	
	Environment - sediment		PNEC	5,74	mg/kg	
	Environment - sediment, freshwater		PNEC	10,2	mg/kg	
	Environment - sediment, marine		PNEC	0,102	mg/kg	
Consumer	Human - inhalation	Short term, local effects	DNEL	208	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	8,2	mg/kg	
Consumer	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	
Consumer	Human - inhalation	Long term, local effects	DNEL	104	mg/m3	
Consumer	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	74,3	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	8,2	mg/kg bw/day	
Consumer	Human - oral	Long term, local effects	DNEL	1,5	mg/cm2	
Industrial / commercial	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Industrial / commercial	Human - inhalation	Long term, local effects	DNEL	208	mg/m3	
Industrial / commercial	Human - inhalation	Long term, systemic effects	DNEL	208	mg/m3	
Industrial / commercial	Human - dermal	Long term, systemic effects	DNEL	13,67	mg/kg	
Industrial / commercial	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	208	mg/m3	
Workers / employees	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	416	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	13,67	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	348,4	mg/m3	

Workers / employees	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	

.alpha.,.alpha.-dimethylbenzyl hydroperoxide						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,0031	mg/l	
	Environment - marine		PNEC	0,00031	mg/l	
	Environment - sporadic (intermittent) release		PNEC	0,031	mg/l	
	Environment - soil		PNEC	0,0029	mg/kg	
	Environment - sewage treatment plant		PNEC	0,35	mg/l	
	Environment - sediment, freshwater		PNEC	0,023	mg/kg	
	Environment - sediment, marine		PNEC	0,0023	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	6	mg/m3	

2,6-di-tert-butyl-p-cresol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,199	µg/l	
	Environment - marine		PNEC	0,02	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,99	mg/l	
	Environment - sediment, freshwater		PNEC	0,996	mg/kg dw	
	Environment - sediment, marine		PNEC	0,00996	mg/kg dw	
	Environment - soil		PNEC	0,04769	mg/kg	
	Environment - oral (animal feed)		PNEC	8,33	mg/kg	
	Environment - sewage treatment plant		PNEC	0,17	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,25	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,25	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,86	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,5	mg/m3	

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	

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:
Chemical resistant protective gloves (EN ISO 374).
Recommended
Protective gloves in butyl rubber (EN ISO 374).
Minimum layer thickness in mm:
0,7
Permeation time (penetration time) in minutes:
> 60
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.
Protective hand cream recommended.

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.
Gas mask filter A (EN 14387), code colour brown
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:	Amber
Odour:	There is no information available on this parameter.
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	100,5 °C (Methyl methacrylate)
Flammability:	There is no information available on this parameter.
Lower explosion limit:	2,1 Vol-% (10,5°C, Methyl methacrylate)
Upper explosion limit:	12,5 Vol-% (Methyl methacrylate)
Flash point:	15 °C
Auto-ignition temperature:	421 °C (Methyl methacrylate)
Decomposition temperature:	There is no information available on this parameter.
pH:	2-3 (50 %)
Kinematic viscosity:	120000-180000 cP (Dynamic viscosity)
Solubility:	Not miscible
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	53 hPa (20°C)
Density and/or relative density:	0,97
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information
No information available at present.

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
Heating, open flame, ignition sources

10.5 Incompatible materials
Avoid contact with strong alkalis.

Avoid contact with strong acids.
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

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).

Liquimate 2K Power Kleber (A)
Liquimate 2-Component Power Adhesive (A)

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			Vapours, calculated value
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			Aerosol, calculated value
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.

Methyl methacrylate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>6000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	29,8	mg/l/4h	Rat		Vapours
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Mild irritant
Respiratory or skin sensitisation:				Human being		Skin Sens. 1
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	2000	ppm	Rat		
Aspiration hazard:						No indications of such an effect.
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	25	ppm	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	

Symptoms:						breathing difficulties, respiratory distress, drowsiness, drop in blood pressure, coughing, headaches, fatigue, mucous membrane irritation, watering eyes, mental confusion

Methacrylic acid

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	1320-2260	mg/kg	Rat		
Acute toxicity, by oral route:	LD50	1250	mg/kg	Mouse		
Acute toxicity, by dermal route:	LD50	500	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	7,1	mg/l/4h	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Corrosive
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitizising
Germ cell mutagenicity:					in vitro	Negative
Symptoms:						asthmatic symptoms, respiratory distress, eyes, reddened, unconsciousness, burning of the membranes of the nose and throat, heart/circulatory disorders, cornea opacity, coughing, headaches

.alpha.,.alpha.-dimethylbenzyl hydroperoxide

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	382	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	1200	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	220	ppm	Rat		(4h)
Skin corrosion/irritation:				Rabbit		Skin Corr. 1B
Symptoms:						respiratory distress, vomiting, cornea opacity, coughing, mucous membrane irritation

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes

Acute toxicity, by oral route:	LD50	2930	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:						Irritant
Serious eye damage/irritation:						Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)

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

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	64	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	78	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	0,33	mg/l/4h	Rat		Aerosol, Dust
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit		Corrosive
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Symptoms:						diarrhoea, mucous membrane irritation, watering eyes

Cumene

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative

Carcinogenicity:				Mouse	OECD 451 (Carcinogenicity Studies)	Carc. 1B
Reproductive toxicity (Developmental toxicity):				Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Reproductive toxicity (Effects on fertility):				Rat		Negative
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	125	ppm	Rat	OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study)	Vapours
Symptoms:						breathing difficulties, respiratory distress, abdominal pain, drowsiness, unconsciousness, diarrhoea, vomiting, coughing, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, watering eyes, nausea and vomiting.

11.2. Information on other hazards

Liquimate 2K Power Kleber (A) **Liquimate 2-Component Power Adhesive (A)**						
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).

Liquimate 2K Power Kleber (A) **Liquimate 2-Component Power Adhesive (A)**							
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.

Methyl methacrylate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	130	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	69	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	37	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	49	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	96h	37	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	>95	%		OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		1,32-1,38			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Methacrylic acid

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	85	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	LC50	96h	100-180	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	35d	10	mg/l	Brachydanio rerio	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>130	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

12.1. Toxicity to daphnia:	NOEC/NOEL	21d	53	mg/l		OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	45	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	86	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	
12.3. Bioaccumulative potential:	Log Pow		0,93				Bioaccumulation is unlikely (LogPow < 1).

.alpha.,.alpha.-dimethylbenzyl hydroperoxide

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	3,9	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	18	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	ErC50	72h	3,1	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	3	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,199	mg/l		QSAR	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>0,39	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	0,48	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	IC50	72h	0,42	mg/l			
12.2. Persistence and degradability:			30	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not readily biodegradable
12.3. Bioaccumulative potential:	BCF		598				Concentration in organisms possible.
12.3. Bioaccumulative potential:	Log Pow		5,03				QSAR
Toxicity to bacteria:	EC50	24h	1,7	mg/l			Tetrahymena pyriformis

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		

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,22	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	28d	0,098	mg/l	Oncorhynchus mykiss	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,004	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,1	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	48h	0,00064	mg/l	Skeletonema costatum	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	0,048	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:			>60	%	activated sludge	OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,75				Not to be expected
12.3. Bioaccumulative potential:	BCF		3,6				calculated value

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.
Hardened product:
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.
Do not perforate, cut up or weld uncleaned container.
Residues may present a risk of explosion.

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number:	2924
14.2. UN proper shipping name:	
UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHYLMETHACRYLATE, METHACRYLIC ACID, INHIBITED)	
14.3. Transport hazard class(es):	3(8)
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable
Tunnel restriction code:	D/E
Classification code:	FC
LQ:	1 L
Transport category:	2

Transport by sea (IMDG-code)

14.1. UN number or ID number:	2924
14.2. UN proper shipping name:	
UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHYLMETHACRYLATE, METHACRYLIC ACID, INHIBITED)	
14.3. Transport hazard class(es):	3(8)
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable
Marine Pollutant:	Not applicable
EmS:	F-E, S-C

Transport by air (IATA)

14.1. UN number or ID number:	2924
14.2. UN proper shipping name:	
UN 2924 Flammable liquid, corrosive, n.o.s. (METHYLMETHACRYLATE, METHACRYLIC ACID, INHIBITED)	
14.3. Transport hazard class(es):	3(8)
14.4. Packing group:	II
14.5. Environmental hazards:	Not applicable

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

Freighted 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)!
Regulation (EC) No 1907/2006, Annex XVII
Cumene
Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
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
P5c		5000	50000

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 assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 57 %

Treated goods as per Regulation (EU) No. 528/2012 must display specific information on the label.
Please note Article 58 paragraph (3) subparagraph 2 of Regulation (EU) No. 528/2012.
Approval of the biocidal active substance may mean that special conditions are required for marketing the treated goods.
These are indicated in the approval of the active substance.

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: 2, 8
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
Flam. Liq. 2, H225	Classification based on test data.
Skin Corr. 1A, H314	Classification according to calculation procedure.
STOT SE 3, H335	Classification according to calculation procedure.
Eye Dam. 1, H318	Classification based on the pH value.
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Chronic 3, H412	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.
H330 Fatal if inhaled.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H225 Highly flammable liquid and vapour.
H242 Heating may cause a fire.
H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H290 May be corrosive to metals.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
H350 May cause cancer.
EUH071 Corrosive to the respiratory tract.

Flam. Liq. — Flammable liquid
Skin Corr. — Skin corrosion
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Eye Dam. — Serious eye damage
Skin Sens. — Skin sensitization
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Skin Irrit. — Skin irritation
Acute Tox. — Acute toxicity - dermal
Acute Tox. — Acute toxicity - oral
Met. Corr. — Substance or mixture corrosive to metals
Org. Perox. — Organic peroxide
Acute Tox. — Acute toxicity - inhalation
STOT RE — Specific target organ toxicity - repeated exposure
Aquatic Acute — Hazardous to the aquatic environment - acute
Eye Irrit. — Eye irritation
Carc. — Carcinogenicity
Asp. Tox. — Aspiration hazard

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
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:
Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90

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

Liquimate 2K Power Kleber (B)
Liquimate 2-Component Power Adhesive (B)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Adhesive
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
Flam. Liq.	2	H225-Highly flammable liquid and vapour.
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 Chronic	3	H412-Harmful to aquatic life with long lasting effects.

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

Danger

H225-Highly flammable liquid and vapour. H335-May cause respiratory irritation. H315-Causes skin irritation. H317-May cause an allergic skin reaction. H412-Harmful 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.
P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261-Avoid breathing vapours or spray. P271-Use only outdoors or in a well-ventilated area. P280-Wear protective gloves.
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.

Methyl methacrylate
Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)
Aniline

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

Methyl methacrylate	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119452498-28-XXXX
Index	607-035-00-6
EINECS, ELINCS, NLP, REACH-IT List-No.	201-297-1
CAS	80-62-6
content %	75-100
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	252-091-3
CAS	34562-31-7
content %	2-<10

Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Irrit. 2, H315

2,6-di-tert-butyl-p-cresol	
Registration number (REACH)	01-2119565113-46-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	204-881-4
CAS	128-37-0
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	
Registration number (REACH)	---
Index	613-167-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	---
CAS	55965-84-9
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH071 Acute Tox. 2, H310 Acute Tox. 2, H330 Acute Tox. 3, H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
Specific Concentration Limits and ATE	Skin Corr. 1C, H314: >=0,6 % Skin Irrit. 2, H315: >=0,06 % Eye Dam. 1, H318: >=0,6 % Eye Irrit. 2, H319: >=0,06 % Skin Sens. 1A, H317: >=0,0015 %

Aniline	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119451454-41-XXXX
Index	612-008-00-7
EINECS, ELINCS, NLP, REACH-IT List-No.	200-539-3
CAS	62-53-3
content %	<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)
Specific Concentration Limits and ATE	STOT RE 1, H372: >=1 % STOT RE 2, H373: >=0,2 %

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.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

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:
Oxides of carbon
Oxides of nitrogen
Toxic gases
Explosive vapour/air or gas/air mixtures.

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.
Cool container at risk with water.
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.
Keep unprotected persons away.
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 from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
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.
Fill the absorbed material into lockable containers.

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.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
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 flammable or self-igniting materials.
Protect from direct sunlight and warming.
Store in a well ventilated place.
Store cool.
Observe special storage conditions.

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

8.1 Control parameters

GB **Chemical Name**	Methyl methacrylate	
WEL-TWA: 50 ppm (208 mg/m3) (WEL), 50 ppm (EU)	WEL-STEL: 100 ppm (416 mg/m3) (WEL), 100 ppm (EU)	---
Monitoring procedures:	- Compur - KITA-184 S (548 618) NIOSH 2537 (Methyl and ethyl metacrylate) - 2003 - EU project - BC/CEN/ENTR/000/2002-16 card 109-2 (2004) - OSHA 94 (Methyl Methacrylate) - 1992	
BMGV: ---		Other information: ---

Chemical Name	2,6-di-tert-butyl-p-cresol	
WEL-TWA: 10 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

GB Chemical Name	Aniline	
WEL-TWA: 1 ppm (4 mg/m3) (WEL), 2 ppm (7,74 mg/m3) (EU)	WEL-STEL: 5 ppm (19,35 mg/m3) (EU)	---
Monitoring procedures:	- Draeger - Aniline 0,5/a (67 33 171) - Draeger - Aniline 5/a (CH 20 401) - Compur - KITA-181 S (548 709) - NIOSH 2002 (AMINES, AROMATIC) - 1994 - NIOSH 2017 (ANILINE, o-TOLUIDINE, AND NITROBENZENE) - 1998 - OSHA PV2079 (Aniline) - 1994	
BMGV: 0,2 mg/L (Aniline (after hydrolysis), Urine, End of Shift, SCOEL/REC/153) (EU)	Other information: Sk	

Methyl methacrylate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,94	mg/l	
	Environment - soil		PNEC	1,47	mg/kg	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - marine		PNEC	0,094	mg/l	
	Environment - sediment		PNEC	5,74	mg/kg	
	Environment - sediment, freshwater		PNEC	10,2	mg/kg	
	Environment - sediment, marine		PNEC	0,102	mg/kg	
Consumer	Human - inhalation	Short term, local effects	DNEL	208	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	8,2	mg/kg	
Consumer	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	
Consumer	Human - inhalation	Long term, local effects	DNEL	104	mg/m3	
Consumer	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	74,3	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	8,2	mg/kg bw/day	
Consumer	Human - oral	Long term, local effects	DNEL	1,5	mg/cm2	
Industrial / commercial	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Industrial / commercial	Human - inhalation	Long term, local effects	DNEL	208	mg/m3	
Industrial / commercial	Human - inhalation	Long term, systemic effects	DNEL	208	mg/m3	
Industrial / commercial	Human - dermal	Long term, systemic effects	DNEL	13,67	mg/kg	
Industrial / commercial	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	208	mg/m3	
Workers / employees	Human - dermal	Long term, local effects	DNEL	1,5	mg/cm2	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	416	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	13,67	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	348,4	mg/m3	
Workers / employees	Human - dermal	Short term, local effects	DNEL	1,5	mg/cm2	

2,6-di-tert-butyl-p-cresol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,199	µg/l	
	Environment - marine		PNEC	0,02	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,99	mg/l	
	Environment - sediment, freshwater		PNEC	0,996	mg/kg dw	
	Environment - sediment, marine		PNEC	0,00996	mg/kg dw	
	Environment - soil		PNEC	0,04769	mg/kg	
	Environment - oral (animal feed)		PNEC	8,33	mg/kg	
	Environment - sewage treatment plant		PNEC	0,17	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,25	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,25	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,86	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,5	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:
Chemical resistant protective gloves (EN ISO 374).
Recommended
Protective gloves in butyl rubber (EN ISO 374).
Minimum layer thickness in mm:
0,7
Permeation time (penetration time) in minutes:
> 60
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.
Protective hand cream recommended.

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.
Gas mask filter A (EN 14387), code colour brown
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

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:	Amber, Yellow
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	100,5 °C (Methyl methacrylate)
Flammability:	There is no information available on this parameter.
Lower explosion limit:	2,1 Vol-% (Methyl methacrylate)
Upper explosion limit:	12,5 Vol-% (Methyl methacrylate)
Flash point:	15 °C
Auto-ignition temperature:	421 °C (Methyl methacrylate)
Decomposition temperature:	There is no information available on this parameter.
pH:	6-8 (50 %)
Kinematic viscosity:	There is no information available on this parameter.
Solubility:	Not miscible
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	53 hPa (20°C)
Density and/or relative density:	0,96
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

9.2 Other information
No information available at present.

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
Heating, open flame, ignition sources

10.5 Incompatible materials
Avoid contact with strong alkalis.
Avoid contact with strong oxidizing agents.
Avoid contact with strong acids.

10.6 Hazardous decomposition products
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).

Liquimate 2K Power Kleber (B)
Liquimate 2-Component Power Adhesive (B)

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			Vapours, calculated value
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			Aerosol, calculated value
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.

Methyl methacrylate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>6000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	29,8	mg/l/4h	Rat		Vapours
Skin corrosion/irritation:				Rabbit		Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Mild irritant
Respiratory or skin sensitisation:				Human being		Skin Sens. 1
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)

Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	2000	ppm	Rat		
Aspiration hazard:						No indications of such an effect.
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	25	ppm	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	
Symptoms:						breathing difficulties, respiratory distress, drowsiness, drop in blood pressure, coughing, headaches, fatigue, mucous membrane irritation, watering eyes, mental confusion

3,5-diethyl-1,2-dihydro-1-phenyl-2-propylpyridine

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>500	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>1000	mg/kg	Rabbit		

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2930	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:						Irritant
Serious eye damage/irritation:						Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	64	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	78	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	0,33	mg/l/4h	Rat		Aerosol, Dust
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit		Corrosive
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)
Symptoms:						diarrhoea, mucous membrane irritation, watering eyes

Aniline

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	250	mg/kg	Rat		

Acute toxicity, by dermal route:	LD50	840	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LD50	3,3	mg/l/4h	Rat		Vapours
Serious eye damage/irritation:				Rabbit		Risk of serious damage to eyes.
Respiratory or skin sensitisation:						Yes (skin contact)
Symptoms:						respiratory distress, unconsciousness, annoyance, headaches, cramps, gastrointestinal disturbances, mucous membrane irritation, dizziness, nausea and vomiting.

11.2. Information on other hazards

Liquimate 2K Power Kleber (B) **Liquimate 2-Component Power Adhesive (B)**						
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).

Liquimate 2K Power Kleber (B) **Liquimate 2-Component Power Adhesive (B)**							
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.

Methyl methacrylate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

12.1. Toxicity to fish:	LC50	96h	130	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	69	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	37	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	49	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	96h	37	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	>95	%		OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		1,32-1,38			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

2,6-di-tert-butyl-p-cresol

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,199	mg/l		QSAR	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>0,39	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	0,48	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	IC50	72h	0,42	mg/l			
12.2. Persistence and degradability:			30	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not readily biodegradable
12.3. Bioaccumulative potential:	BCF		598				Concentration in organisms possible.
12.3. Bioaccumulative potential:	Log Pow		5,03				QSAR
Toxicity to bacteria:	EC50	24h	1,7	mg/l			Tetrahymena pyriformis

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,22	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to fish:	NOEC/NOEL	28d	0,098	mg/l	Oncorhynchus mykiss	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,004	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,1	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	NOEC/NOEL	48h	0,00064	mg/l	Skeletonema costatum	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	0,048	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:			>60	%	activated sludge	OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		0,75				Not to be expected
12.3. Bioaccumulative potential:	BCF		3,6				calculated value

Aniline							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	36,2	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EC50	48h	0,17	mg/l	Daphnia magna		
12.2. Persistence and degradability:		28d	93	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	
12.1. Toxicity to algae:	IC50	48h	68	mg/l	Desmodesmus subspicatus		
Toxicity to bacteria:	EC50	10min	2500	mg/l	activated sludge		

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.
Hardened product:
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.
Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: 1133
14.2. UN proper shipping name:
UN 1133 ADHESIVES

14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D/E
Classification code: F1
LQ: 5 L
Transport category: 2

Transport by sea (IMDG-code)

14.1. UN number or ID number: 1133
14.2. UN proper shipping name:
UN 1133 ADHESIVES

14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: Not applicable
Marine Pollutant: Not applicable
EmS: F-E, S-D

Transport by air (IATA)

14.1. UN number or ID number: 1133
14.2. UN proper shipping name:
UN 1133 Adhesives

14.3. Transport hazard class(es): 3
14.4. Packing group: II
14.5. Environmental hazards: Not applicable

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

Freighted 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 national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!
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
P5c		5000	50000

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

assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 57 %

Treated goods as per Regulation (EU) No. 528/2012 must display specific information on the label.
Please note Article 58 paragraph (3) subparagraph 2 of Regulation (EU) No. 528/2012.
Approval of the biocidal active substance may mean that special conditions are required for marketing the treated goods.
These are indicated in the approval of the active substance.

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: 2, 3, 6, 7, 8, 9, 11, 12, 14, 15, 16
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
Flam. Liq. 2, H225	Classification based on test data.
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 Chronic 3, H412	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.
H330 Fatal if inhaled.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.

Flam. Liq. — Flammable liquid
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
Acute Tox. — Acute toxicity - oral
Acute Tox. — Acute toxicity - dermal
Aquatic Acute — Hazardous to the aquatic environment - acute
Acute Tox. — Acute toxicity - inhalation
Skin Corr. — Skin corrosion
Eye Dam. — Serious eye damage
Muta. — Germ cell mutagenicity
Carc. — Carcinogenicity
STOT RE — Specific target organ toxicity - repeated exposure

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
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:

Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90