Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

1.1 Product identifier

Scheibenreinigerschaum

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

Relevant identified uses of the substance or mixture:
Window cleaner

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
Tel.: (+49) 0731-1420-0
Fax: (+49) 0731-1420-88

LIQUI MOLY UK
1310 Solihull Parkway
Birmingham Business Park
B37 7YB Solihull
Tel: +44 121 796 5365

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:

GB

Landspitali- The National University Hospital of Iceland, tel. +354 543 2222 or 112 (valid only for Iceland)

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
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

2.2 Label elements

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



Danger

H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P102-Keep out of reach of children.
P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211-Do not spray on an open flame or other ignition source. P251-Do not pierce or burn, even after use.
P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

Without adequate ventilation, formation of explosive mixtures may be possible.

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

Aerosol

3.1 Substances

n.a.

3.2 Mixtures

Ethanol	
Registration number (REACH)	01-2119457610-43-XXXX
Index	603-002-00-5
EINECS, ELINCS, NLP, REACH-IT List-No.	200-578-6
CAS	64-17-5
content %	10-20
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Eye Irrit. 2, H319
Specific Concentration Limits and ATE	Eye Irrit. 2, H319: >=50 %

Ammonia	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119982985-14-XXXX
Index	007-001-01-2
EINECS, ELINCS, NLP, REACH-IT List-No.	215-647-6
CAS	1336-21-6
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411
Specific Concentration Limits and ATE	STOT SE 3, H335: >=5 %

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!

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

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
Danger of bursting (explosion) when heated
Possible build up of explosive/highly flammable vapour/air mixture.

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.
Avoid contact with eyes or skin.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
Prevent surface and ground-water infiltration, as well as ground penetration.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.
Without adequate ventilation, formation of explosive mixtures may be possible.
Active substance:
Soak up with absorbent material (e.g. sand, 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.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Do not use on hot surfaces.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

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

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Observe special regulations for aerosols!
Do not store with oxidizing agents.
Keep protected from direct sunlight and temperatures over 50°C.
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**	Ethanol		
WEL-TWA: 1000 ppm (1920 mg/m3)		WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Alcohol 25/a Ethanol (81 01 631) - Compur - KITA-104 SA (549 210)		

	DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 2013, - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) DFG Meth. Nr. 2 (D) (Loesungsmittelgemische) - 2013 - EU project - BC/CEN/ENTR/000/2002-16 card 63-2 (2004) DFG Meth. Nr. 3 (D) (Loesungsmittelgemische) - 2013 - EU project - BC/CEN/ENTR/000/2002-16 card 63-2 (2004)
BMGV: ---	Other information: ---

GB **Chemical Name**	Ammonia	
WEL-TWA: NH3 25 ppm (18 mg/m3) (WEL-TWA), 20 ppm (14 mg/m3) (EU)	WEL-STEL: NH3 35 ppm (25 mg/m3) (WEL-STEL), 50 ppm (36 mg/m3) (EU)	---
Monitoring procedures:	- Draeger - Ammonia 0,25/a (81 01 711) - Draeger - Ammonia 0,5%/a (CH 31 901) - Draeger - Ammonia 2/a (67 33 231) - Draeger - Ammonia 5/a (CH 20 501) - Draeger - Ammonia 5/b (81 01 941) - Compur - KITA-105 SA (548 642) - Compur - KITA-105 SB (548 659) - Compur - KITA-105 SC (548 667) - Compur - KITA-105 SD (548 675) - Compur - KITA-105 SH (548 683) - Compur - KITA-105 SM (548 691) - NIOSH 6015 (Ammonia) - 1990 - NIOSH 6016 (AMMONIA by IC) - 2016 - OSHA ID-164 (Ammonia in Workplace Atmospheres) - 1988 - OSHA ID-188 (Ammonia in workplace atmospheres – solid sorbent) - 2002	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Butane	
WEL-TWA: 600 ppm (1450 mg/m3)	WEL-STEL: 750 ppm (1810 mg/m3)	---
Monitoring procedures:	- Compur - KITA-221 SA (549 459) - OSHA PV2010 (n-Butane) - 1993	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Propane	
WEL-TWA: 1000 ppm (ACGIH)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-125 SA (549 954) - OSHA PV2077 (Propane) - 1990	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Isobutane	
WEL-TWA: 1000 ppm (EX) (ACGIH)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-113 SB(C) (549 368)	
BMGV: ---	Other information: ---	

Ethanol

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,96	mg/l	
	Environment - marine		PNEC	0,79	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2,75	mg/l	
	Environment - sewage treatment plant		PNEC	580	mg/l	
	Environment - sediment, freshwater		PNEC	3,6	mg/kg dry weight	
	Environment - soil		PNEC	0,63	mg/kg dry weight	
	Environment - oral (animal feed)		PNEC	0,38	g/kg feed	
	Environment - sediment, marine		PNEC	2,9	mg/kg dry weight	

Consumer	Human - dermal	Short term, local effects	DNEL	950	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	114	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	87	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	206	mg/kg bw/d	
Consumer	Human - inhalation	Short term, local effects	DNEL	950	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	343	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	380	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	1900	mg/m3	

Ammonia						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,0011	mg/l	
	Environment - marine		PNEC	0,0011	mg/l	
	Environment - periodic release		PNEC	0,0068	mg/l	
Consumer	Human - inhalation	Long term, local effects	DNEL	2,8	mg/m3	
Consumer	Human - inhalation	Short term, local effects	DNEL	7,2	mg/m3	
Consumer	Human - dermal	Short term, local effects	DNEL	68	mg/kg body weight/day	
Consumer	Human - dermal	Short term, systemic effects	DNEL	68	mg/kg body weight/day	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	23,8	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	23,8	mg/m3	
Consumer	Human - oral	Short term, systemic effects	DNEL	6,8	mg/kg body weight/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	6,8	mg/kg body weight/day	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	6,8	mg/kg body weight/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	6,8	mg/kg body weight/day	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	47,6	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	36	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	47,6	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	14	mg/m3	

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (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 (2004/37/CE). |

| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 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 (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

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).
If applicable
Protective nitrile gloves (EN ISO 374).
Minimum layer thickness in mm:
>= 0,4
Permeation time (penetration time) in minutes:
>= 480
Protective hand cream recommended.
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
Normally not necessary.
If the workplace limit value is exceeded.
Filter A P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Foam aerosol 20°C
Colour:	White
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	Does not apply to aerosols.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	-60 °C
Auto-ignition temperature:	Does not apply to aerosols.
Decomposition temperature:	There is no information available on this parameter.
pH:	9,5 (100 %, 20°C)
Kinematic viscosity:	Does not apply to aerosols.
Solubility:	There is no information available on this parameter.
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	4100 hPa (20°C)
Vapour pressure:	7000 hPa (50°C)
Density and/or relative density:	0,9 g/cm3
Relative vapour density:	Does not apply to aerosols.
Particle characteristics:	Does not apply to aerosols.

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
See also section 7.
Heating, open flame, ignition sources
Pressure increase will result in danger of bursting.

10.5 Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
See also section 5.2
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Possibly more information on health effects, see Section 2.1 (classification).

Scheibenreinigerschaum						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	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.

Ethanol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	10470	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	51-124,7	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test)	Negative
Carcinogenicity:	NOAEL	>3000	mg/kg	Rat	OECD 451 (Carcinogenicity Studies)	24 mon
Reproductive toxicity:	NOAEL	5200	mg/kg bw/d	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAL	>20	mg/l	Rat	OECD 403 (Acute Inhalation Toxicity)	Male
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	1730	mg/kg/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	Female

Symptoms:						respiratory distress, drowsiness, unconsciousness, drop in blood pressure, vomiting, coughing, headaches, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea

Ammonia

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	350	mg/kg	Rat		
Acute toxicity, by oral route:	LDLo	550	mg/kg	Cat		
Acute toxicity, by oral route:	LDLo	43	mg/kg	Human being		
Acute toxicity, by inhalation:	LCLo	5000	ppm	Human being		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Corrosive
Serious eye damage/irritation:				Rabbit		Risk of serious damage to eyes.
Respiratory or skin sensitisation:				Guinea pig		Not sensitizising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative
Reproductive toxicity:	NOAEL	408	mg/kg	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Symptoms:						asthmatic symptoms, respiratory distress, unconsciousness, burning of the membranes of the nose and throat, vomiting, cornea opacity, coughing, cramps, circulatory collapse, shock, nausea

Butane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative

Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Human being	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Rat	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEC	21,394	mg/l	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						No
Symptoms:						ataxia, breathing difficulties, drowsiness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting.

Propane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Acute toxicity, by inhalation:	LC50	260000	ppmV/4h	Rat		Gasses, Male, Analogous conclusion
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Reproductive toxicity (Developmental toxicity):	NOAEC	21,641	mg/l		OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	7,214	mg/l	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	LOAEL	21,641	mg/l	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						No

Symptoms:						breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting.

Isobutane						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Acute toxicity, by inhalation:	LC50	260000	ppmV/4h	Rat		Gasses, Male
Serious eye damage/irritation:				Rabbit		Not irritant
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
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:	NOAEL	21,394	mg/l	Rat	OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test)	
Aspiration hazard:						No
Symptoms:						unconsciousness, frostbite, headaches, cramps, dizziness, nausea and vomiting.

11.2. Information on other hazards

Scheibenreinigerschaum						
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.

Ethanol						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**

Other information:						Excessive alcohol consumption during pregnancy induces the foetus alcohol syndrome (reduced weight at birth, physical and mental disorders)., There is no sign that this syndrome is also caused by dermal or inhalative absorption., Experiences on persons.

SECTION 12: Ecological information

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

Scheibenreinigerschaum							
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:							The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.

12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a.
Other information:	AOX			%			According to the recipe, contains no AOX.

Ethanol							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	13000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	120h	250	mg/l	Brachydanio rerio	OECD 212 (Fish, Short- term Toxicity Test on Embryo and Sac-fry Stages)	
12.1. Toxicity to daphnia:	EC50	48h	5414	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	10d	9,6	mg/l	Ceriodaphnia spec.		References
12.1. Toxicity to algae:	EC50	72h	275	mg/l	Chlorella vulgaris	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	97	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		(-0,35) - (-0,32)				Bioaccumulation is unlikely (LogPow < 1).
12.3. Bioaccumulative potential:	BCF		0,66 - 3,2				
12.4. Mobility in soil:	H (Henry)		0,000138				
12.4. Mobility in soil:	Koc		1,0				Highestimated
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	IC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion
Other organisms:	NOEC/NOEL		280	mg/l	Lemna gibba	OECD 201 (Alga, Growth Inhibition Test)	
Other information:	COD		1,9	g/g			
Other information:	BOD5		1	g/g			

Ammonia

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	8,2	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	96h	0,53	mg/l	Oncorhynchus mykiss		Anhydrous substance
12.1. Toxicity to fish:	NOEC/NOEL	30d	<0,048	mg/l	Ictalurus punctatus	OECD 215 (Fish, Juvenile Growth Test)	
12.1. Toxicity to fish:	LC50	96h	0,16-1,1	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	24-25,4	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,42	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	EC50	48h	0,66	mg/l	Daphnia pulex		
12.1. Toxicity to daphnia:	EC50	48h	1,16	mg/l	Daphnia pulicaria		Anhydrous substance
12.1. Toxicity to algae:	EC50	72h	>1000		Skeletonema costatum	ISO 10253	
12.1. Toxicity to algae:	NOEC/NOEL	72h	>1000	mg/l	Skeletonema costatum	ISO 10253	
12.2. Persistence and degradability:							Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-1,14			Regulation (EC) 440/2008 A.8 (PARTITION COEFFICIENT)	Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	5min	1,16	mg/l	Photobacterium phosphoreum		Anhydrous substance
Water solubility:							Soluble

Butane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	24,11	mg/l		QSAR	
12.1. Toxicity to daphnia:	LC50	48h	14,22	mg/l		QSAR	
12.3. Bioaccumulative potential:	Log Pow		2,89				A notable biological accumulation potential is not to be expected (LogPow 1-3).
12.4. Mobility in soil:							Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Propane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	49,9	mg/l			
12.1. Toxicity to algae:	EC50	96h	19,37	mg/l			
12.3. Bioaccumulative potential:	Log Pow		2,28				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

Isobutane							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	27,98	mg/l			
12.1. Toxicity to algae:	EC50	96h	7,71	mg/l			
12.2. Persistence and degradability:							Readily biodegradable
12.3. Bioaccumulative potential:							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

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)
16 05 04 gases in pressure containers (including halons) containing hazardous substances
20 01 29 detergents containing hazardous substances
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Take full aerosol cans to problem waste collection.
Take emptied aerosol cans to valuable material collection.
For contaminated packing material
Pay attention to local and national official regulations.
Recommendation:
Do not perforate, cut up or weld uncleaned container.
15 01 04 metallic packaging
15 01 10 packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

General statements
Transport by road/by rail (ADR/RID)
14.1. UN number or ID number: 1950
14.2. UN proper shipping name:
UN 1950 AEROSOLS



14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D
Classification code: 5F
LQ: 1 L
Transport category: 2
Transport by sea (IMDG-code)
14.1. UN number or ID number: 1950
14.2. UN proper shipping name:
UN 1950 AEROSOLS



14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
14.5. Environmental hazards:	Not applicable
Marine Pollutant:	Not applicable
EmS:	F-D, S-U

Transport by air (IATA)

14.1. UN number or ID number:	1950
14.2. UN proper shipping name:	
UN 1950 Aerosols, flammable	
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
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 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
P3a	11.1	150 (netto)	500 (netto)

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 2012/18/EU ("Seveso III"), Annex I, Part 2 - This product contains the substances listed below:

Entry Nr	Dangerous substances	Notes to Annex I	Qualifying quantity (tonnes) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) for the application of - Upper-tier requirements
18	Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas	19	50	200

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

Directive 2010/75/EU (VOC): ~ 24,45 %

REGULATION (EC) No 648/2004

5 % or over but less than 15 %
aliphatic hydrocarbons
less than 5 %
anionic surfactants

perfumes

LIMONENE

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: 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
Aerosol 1, H222	Classification according to calculation procedure.
Aerosol 1, H229	Classification based on the form or physical state.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.
H225 Highly flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Aerosol — Aerosols
Flam. Liq. — Flammable liquid
Eye Irrit. — Eye irritation
Skin Corr. — Skin corrosion
Eye Dam. — Serious eye damage
Aquatic Acute — Hazardous to the aquatic environment - acute
Aquatic Chronic — Hazardous to the aquatic environment - chronic

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
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
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
mg/kg bw mg/kg body weight
mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
mg/kg dw mg/kg dry weight
mg/kg wwt mg/kg wet weight
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. 6/7/8/9xx-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

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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