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Revision date / version: 21.01.2020 / 0016  
Replacing version dated / version: 19.07.2019 / 0015  
Valid from: 21.01.2020  
PDF print date: 21.01.2020  
Scheibenfrostschutz -60°C 1 L  
Art.: 6923

## 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

**Scheibenfrostschutz -60°C 1 L**

**Art.: 6923**

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

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

Glass cleaner

Sector of use [SU]:

SU 3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

SU21 - Consumer uses: Private households (=general public = consumers)

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category [PC]:

PC 4 - Anti-Freeze and de-icing products

PC35 - Washing and cleaning products

Process category [PROC]:

PROC 7 - Industrial spraying

PROC 8a - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC 8b - Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC 9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC11 - Non industrial spraying

Article Categories [AC]:

AC99 - Not required.

Environmental Release Category [ERC]:

ERC 8a - Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

ERC 8d - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)

##### 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](mailto:info@chemical-check.de), [k.schnurbusch@chemical-check.de](mailto:k.schnurbusch@chemical-check.de) Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

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

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

+49 (0) 700 / 24 112 112 (LMR)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

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Hazard class	Hazard category	Hazard statement
Flam. Liq.	3	H226-Flammable liquid and vapour.
STOT RE	2	H373-May cause damage to organs through prolonged or repeated exposure (kidneys).
Eye Irrit.	2	H319-Causes serious eye irritation.

## 2.2 Label elements

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



Warning

H226-Flammable liquid and vapour. H373-May cause damage to organs through prolonged or repeated exposure (kidneys). H319-Causes serious eye irritation.

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.  
 P280-Wear eye protection / face protection.  
 P314-Get medical advice / attention if you feel unwell.  
 P501-Dispose of contents / container to an approved waste disposal facility.

Ethanediol

## 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 %).

Heed increased flammability of impregnated textiles/clothes.

## SECTION 3: Composition/information on ingredients

### 3.1 Substance

n.a.

### 3.2 Mixture

<b>Ethanol</b>	<b>Substance with specific conc. limit(s) acc. to REACH-registration</b>
<b>Registration number (REACH)</b>	01-2119457610-43-XXXX
<b>Index</b>	603-002-00-5
<b>EINECS, ELINCS, NLP</b>	200-578-6
<b>CAS</b>	64-17-5
<b>content %</b>	50-60
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Flam. Liq. 2, H225 Eye Irrit. 2, H319

<b>Ethanediol</b>	<b>Substance for which an EU exposure limit value applies.</b>
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<b>Registration number (REACH)</b>	01-2119456816-28-XXXX
<b>Index</b>	603-027-00-1
<b>EINECS, ELINCS, NLP</b>	203-473-3
<b>CAS</b>	107-21-1
<b>content %</b>	10-20
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.  
 The substances named in this section are given with their actual, appropriate classification!  
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!  
 Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.  
 Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

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

#### Eye contact

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

#### Ingestion

Rinse the mouth thoroughly with water.  
 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.

The following may occur:

Irritation of the eyes  
 Headaches  
 Dizziness  
 Inhalation of fumes may have narcotic effect.  
 Effect on the central nervous system  
 Nausea  
 Vomiting  
 With long-term contact:  
 Dermatitis (skin inflammation)  
 Product removes fat.

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

Indications for the physician:  
 Inhalation of fumes may have narcotic effect.  
 Reduction of reactivity.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

CO<sub>2</sub>  
 Extinction powder  
 Water jet spray  
 Large fire:  
 Water jet spray  
 Alcohol resistant foam

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## 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 sulphur

Oxides of nitrogen

Toxic gases

Dangerous vapours heavier than air.

Explosive vapour/air or gas/air mixtures.

Danger of bursting (explosion) when heated

## 5.3 Advice for firefighters

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

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

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

Ensure sufficient supply of air.

Avoid contact with eyes or skin.

Remove possible causes of ignition - do not smoke.

If applicable, caution - risk of slipping.

### 6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

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

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

Diluting with water is possible.

### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

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

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.

Avoid contact with eyes or skin.

Keep away from sources of ignition - Do not smoke.

Take measures against electrostatic charging, if appropriate.

Do not use on hot surfaces.

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

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Keep out of access to unauthorised individuals.  
 Observe special storage conditions.  
 Not to be stored in gangways or stair wells.  
 Store product closed and only in original packing.  
 Do not store with oxidizing agents.  
 Do not store with flammable or self-igniting materials.  
 Solvent resistant floor  
 Store cool.  
 Protect from direct sunlight and warming.  
 Store in a well ventilated place.

### 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Chemical Name	Ethanol	Content %:50-60
WEL-TWA: 1000 ppm (1920 mg/m <sup>3</sup> )	WEL-STEL: ---	---
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Compur - KITA-104 SA (549 210)</li> <li>- Draeger - Alcohol 25/a Ethanol (81 01 631)</li> <li>- DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 1998, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004)</li> </ul>	
BMGV: ---	Other information: ---	

Chemical Name	Ethanediol	Content %:10-20
WEL-TWA: 10 mg/m <sup>3</sup> (particulate), 52 mg/m <sup>3</sup> (vapour) (WEL), 20 ppm (52 mg/m <sup>3</sup> ) (EU)	WEL-STEL: 104 mg/m <sup>3</sup> (vapour) (WEL), 40 ppm (104 mg/m <sup>3</sup> ) (EU)	---
Monitoring procedures:	<ul style="list-style-type: none"> <li>- Compur - KITA-232 SA (502 342)</li> <li>- Compur - KITA-232 SB (550 267)</li> <li>- Draeger - Ethylene Glycol 10 (5) (81 01 351)</li> <li>- NIOSH 5523 (Glycols) - 1996</li> <li>- OSHA PV2024 (Ethylene glycol) - 1999 - EU project BC/CEN/ENTR/000/2002-16 card</li> <li>- 11-2 (2004)</li> </ul>	
BMGV: ---	Other information: Sk (particulate, vapour)	

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	
	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/m <sup>3</sup>	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	114	mg/m <sup>3</sup>	
Consumer	Human - oral	Long term, systemic effects	DNEL	87	mg/kg	

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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	950	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	1900	mg/m3	

Ethanediol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	10	mg/l	
	Environment - marine		PNEC	1	mg/l	
	Environment - sediment		PNEC	20,9	mg/kg	
	Environment - soil		PNEC	1,53	mg/kg	
	Environment - sewage treatment plant		PNEC	199,5	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	10	mg/l	
	Environment - sediment, freshwater		PNEC	37	mg/kg dry weight	
	Environment - sediment, marine		PNEC	3,7	mg/kg dry weight	
Consumer	Human - inhalation	Long term, local effects	DNEL	7	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	53	mg/kg	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	35	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	106	mg/kg	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).  
 (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | 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.

## 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. BS EN 14042.

BS 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.

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**Eye/face protection:**  
 Tight fitting protective goggles (EN 166) with side protection, with danger of splashes.

**Skin protection - Hand protection:**  
 Chemical resistant protective gloves (EN 374).  
 Recommended  
 Protective gloves in butyl rubber (EN 374).  
 Minimum layer thickness in mm:  
 >= 0,7  
 Permeation time (penetration time) in minutes:  
 >= 480  
 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:**  
 Normally not necessary.  
 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:	Blue
Odour:	Characteristic, Perfumed
Odour threshold:	Not determined
pH-value:	7,5 (20°C, DIN 19268)
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	>23-<55 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	n.a.
Lower explosive limit:	3,2 Vol-%
Upper explosive limit:	53 Vol-%
Vapour pressure:	59 hPa (20°C)
Vapour density (air = 1):	Not determined
Density:	0,915 g/cm <sup>3</sup> (20°C, DIN 51757)
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Mixable
Partition coefficient (n-octanol/water):	Not determined

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Auto-ignition temperature:	No
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Product is not explosive. Possible build up of explosive/highly flammable vapour/air mixture.
Oxidising properties:	No
<b>9.2 Other information</b>	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

Heating, open flame, ignition sources

### 10.5 Incompatible materials

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 toxicological effects

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

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

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)	

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Acute toxicity, by inhalation:	LC50	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)	Irritant
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
Aspiration hazard:				Human being		No indications of such an effect.
Symptoms:						respiratory distress, drowsiness, unconsciousness, drop in blood pressure, vomiting, coughing, headaches, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea
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.

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Ethanediol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	1600	mg/kg	Human being		
Acute toxicity, by dermal route:	LD50	9530	mg/kg	Rabbit		
Acute toxicity, by dermal route:	LD50	>3500	mg/kg	Mouse		
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Not irritant
Respiratory or skin sensitisation:				Human being	(Patch-Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Rat	in vivo	Negative
Reproductive toxicity:	NOAEL	1000	mg/kg bw/d	Rat		
Symptoms:						ataxia, breathing difficulties, unconsciousness, cramps, fatigue

## SECTION 12: Ecological information

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

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Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							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. Other adverse effects:							n.d.a.

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Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.2. Persistence and degradability:		30d	80-85	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
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 fish:	LC50	96h	13000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	12340	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	NOEC/NOEL	10d	9,6	mg/l	Ceriodaphnia spec.		References
12.1. Toxicity to daphnia:	LC50	48h	5012	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	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-0,32				Bioaccumulation is unlikely (LogPow < 1).
12.3. Bioaccumulative potential:	BCF		0,66 - 3,2				
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)	

**Ethanediol**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to bacteria:	EC20	30min	>1995	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
12.1. Toxicity to fish:	LC50	96h	>10000	mg/l	Pimephales promelas	IUCLID Chem. Data Sheet (ESIS)	
12.1. Toxicity to fish:	NOEC/NOEL	7d	15380	mg/l	Pimephales promelas	U.S. EPA ECOTOX Database	
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

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12.1. Toxicity to daphnia:	NOEC/NOEL		8590	mg/l	Daphnia magna	U.S. EPA ECOTOX Database	
12.1. Toxicity to algae:	EC50	96h	6500-7500	mg/l	Pseudokirchneriella subcapitata		
12.2. Persistence and degradability:		28d	56	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
12.2. Persistence and degradability:		10h	90-100	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-1,36				Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC50	16h	>10000	mg/l	Pseudomonas putida	IUCLID Chem. Data Sheet (ESIS)	
Other information:	BOD5		0,78	g/g			IUCLID

## 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)

20 01 29 detergents containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

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

Residues may present a risk of explosion.

Recommended cleaner:

Water

## SECTION 14: Transport information

### General statements

14.1. UN number: 1170

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

14.2. UN proper shipping name:  
UN 1170 ETHANOL SOLUTION

14.3. Transport hazard class(es): 3

14.4. Packing group: III

Classification code: F1

LQ: 5 L

14.5. Environmental hazards: Not applicable



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Tunnel restriction code: D/E  
**Transport by sea (IMDG-code)**  
 14.2. UN proper shipping name: ETHANOL SOLUTION  
 14.3. Transport hazard class(es): 3  
 14.4. Packing group: III  
 EmS: F-E, S-D  
 Marine Pollutant: n.a  
 14.5. Environmental hazards: Not applicable



**Transport by air (IATA)**  
 14.2. UN proper shipping name: Ethanol solution  
 14.3. Transport hazard class(es): 3  
 14.4. Packing group: III  
 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. Transport in bulk according to Annex II of MARPOL and the IBC Code**

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 %  
**REGULATION (EC) No 648/2004**  
 less than 5 %  
 anionic surfactants

perfumes

Observe incident regulations.

**15.2 Chemical safety assessment**

A chemical safety assessment is not provided for mixtures.

**SECTION 16: Other information**

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Revised sections: 2, 3, 11, 12, 15  
 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. 3, H226	Classification based on test data.
STOT RE 2, H373	Classification according to calculation procedure.
Eye Irrit. 2, H319	Classification according to calculation procedure.

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

H225 Highly flammable liquid and vapour.  
 H373 May cause damage to organs through prolonged or repeated exposure if swallowed.  
 H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.

Flam. Liq. — Flammable liquid  
 STOT RE — Specific target organ toxicity - repeated exposure  
 Eye Irrit. — Eye irritation  
 Acute Tox. — Acute toxicity - oral

### 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)  
 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)  
 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  
 dw dry weight  
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
 EC European Community  
 ECHA European Chemicals Agency  
 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)  
 etc. et cetera  
 EU European Union  
 EVAL Ethylene-vinyl alcohol copolymer  
 Fax. Fax number  
 gen. general

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GHS Globally Harmonized System of Classification and Labelling of Chemicals  
GWP Global warming potential  
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  
IUCRID International Uniform Chemical Information Database  
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  
OECD Organisation for Economic Co-operation and Development  
org. organic  
PBT persistent, bioaccumulative and toxic  
PE Polyethylene  
PNEC Predicted No Effect Concentration  
ppm parts per million  
PVC Polyvinylchloride  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC Substances of Very High Concern  
Tel. Telephone  
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**

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