



# Safety Data Sheet

according to UK REACH Regulation

## Frostsicher Paket 3: 2 x 200 Liter

Revision date: 02.10.2019

Product code: 1104672

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

#### 1.1. Product identifier

Frostsicher Paket 3: 2 x 200 Liter

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

##### Use of the substance/mixture

Cleaner

#### 1.3. Details of the supplier of the safety data sheet

Company name:	TUNAP GmbH & Co. KG	
Street:	Buergermeister-Seidl-Strasse 2	
Place:	D-82515 Wolfratshausen	
Telephone:	+49 (0) 8171/1600-0	Telefax: +49 (0) 8171/1600-40
E-mail:	sdb@tunap.com	
Internet:	www.tunap.com	

**1.4. Emergency telephone number:** 111 NHS (National Health Service)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GB CLP Regulation

Hazard categories:

Flammable liquids: Flam. Liq. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

#### 2.2. Label elements

##### GB CLP Regulation

**Signal word:** Danger**Pictograms:**

##### Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

##### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe vapours.

P280 Wear eye protection.

P233 Keep container tightly closed.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

#### 2.3. Other hazards



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The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII. This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Relevant ingredients

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
64-17-5	ethanol			50 - < 100 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
107-21-1	ethanediol, ethylene glycol			5 - < 10 %
	203-473-3		01-2119456816-28	
	Acute Tox. 4, STOT RE 2; H302 H373			

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity	
	Specific Conc. Limits, M-factors and ATE			
64-17-5	200-578-6	ethanol	50 - < 100 %	
	inhalation: LC50 = 95,6 mg/l (vapours); dermal: LD50 = >20000 mg/kg; oral: LD50 = 6200 mg/kg Eye Irrit. 2; H319: >= 50 - 100			
107-21-1	203-473-3	ethanediol, ethylene glycol	5 - < 10 %	
	dermal: LD50 = >3500 mg/kg; oral: LD50 = 1600 mg/kg			

##### Labelling for contents according to Regulation (EC) No 648/2004

&lt; 5 % anionic surfactants, &lt; 5 % non-ionic surfactants, perfumes.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

##### After inhalation

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

##### After contact with skin

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

##### After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

##### After ingestion

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

#### 4.2. Most important symptoms and effects, both acute and delayed

Headache, nausea, dizziness, fatigue, skin irritation



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#### **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Water fog. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder.

##### **Unsuitable extinguishing media**

High power water jet.

#### **5.2. Special hazards arising from the substance or mixture**

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

#### **5.3. Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

##### **Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **General advice**

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Wear personal protection equipment.

##### **For non-emergency personnel**

First aider: Pay attention to self-protection!

##### **For emergency responders**

Fight fire with normal precautions from a reasonable distance.

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

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

##### **For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).

##### **For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

##### **Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

#### **6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### **SECTION 7: Handling and storage**

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**7.1. Precautions for safe handling****Advice on safe handling**

Observe instructions for use.

Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

When using do not eat, drink, smoke, sniff.

Wear personal protection equipment (refer to section 8).

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking.

**Advice on general occupational hygiene**

Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

**Further information on handling**

Avoid contact with skin and eyes.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Observe legal regulations and provisions.

**Hints on joint storage**

Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

**Further information on storage conditions**

Store in a cool dry place. Observe legal regulations and provisions.

**7.3. Specific end use(s)**

Scheibenfrostschutz

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

**Additional advice on limit values**

a no restriction

b End of exposure or end of shift

c at long-term exposure:

d before next shift

blood (B)

Urine (U)

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: Tightly sealed safety glasses.



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#### Hand protection

Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Suitable material: NBR (Nitrile rubber) Breakthrough time: 480min

Thickness of the glove material 0,45 mm

EN ISO 374

#### Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

When exceeding the relevant workplace exposure limits, note the following:

Suitable respiratory protective equipment: Combination filter device (DIN EN 141)..

Filtering device with filter or ventilator filtering device of type: A

Observe the wear time limits as specified by the manufacturer.

Observe legal regulations and provisions.

#### Environmental exposure controls

Observe legal regulations and provisions.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:

Colour: blue

Odour: Zitrone

Melting point/freezing point:

not determined

Boiling point or initial boiling point and

78 °C

boiling range:

Flammability:

not applicable

not applicable

Flash point:

21,5 °C ISO 3679

Auto-ignition temperature:

400 °C

Decomposition temperature:

not determined

pH-Value (at 20 °C):

10,4 DIN 19268

Water solubility:

completely miscible

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapour pressure:

not determined

Vapour pressure:

No information available.

Density (at 20 °C):

0,9 g/cm<sup>3</sup> DIN 51757

Relative vapour density:

not determined

### 9.2. Other information

#### Information with regard to physical hazard classes

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

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Oxidizing properties  
Not oxidising.

**Other safety characteristics**

Evaporation rate:	not determined
Solvent separation test:	No information available.
Solvent content:	No information available.
Solid content:	not determined
Sublimation point:	No information available.
Softening point:	No information available.
Viscosity / dynamic:	No information available. DIN 53019-1
Flow time: (at 20 °C)	No information available.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Flammable.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No hazardous reaction when handled and stored according to provisions.

**10.4. Conditions to avoid**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharges.

**10.5. Incompatible materials**

Oxidizing agents. Pyrophoric or self-heating substances.

**10.6. Hazardous decomposition products**Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.**Further information**

Do not mix with other chemicals.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No information available.

**Acute toxicity**

Based on available data, the classification criteria are not met.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l; ATE (inhalation gas) &gt; 20000 ppm

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol				
	oral	LD50 6200 mg/kg	Rat	IUCLID	
	dermal	LD50 >20000 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 95,6 mg/l	Rat	RTECS	
107-21-1	ethanediol, ethylene glycol				
	oral	LD50 1600 mg/kg	Rat		
	dermal	LD50 >3500 mg/kg	Rabbit		

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

No information available.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

No information available.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

No information available.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

Ingestion, Inhalation, Skin contact, Eye contact.

Reference to other sections: 2.1, 4.2.

**Specific effects in experiment on an animal**

No information available.

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**11.2. Information on other hazards****Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**Other information**

No information available.

**SECTION 12: Ecological information****12.1. Toxicity**

Aquatic toxicity: The classification criteria for this hazard class are not met by definition.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-17-5	ethanol					
	Acute fish toxicity	LC50 14200 mg/l	96 h	Pimephales promelas (fathead minnow)		
	Acute crustacea toxicity	EC50 9268 - 14221 mg/l	48 h	Daphnia magna	IUCLID	
107-21-1	ethanediol, ethylene glycol					
	Acute fish toxicity	LC50 72860 mg/l	96 h	Pimephales promelas		
	Acute algae toxicity	ErC50 6500 - 13000 mg/l	96 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna		
	Fish toxicity	NOEC 72860 mg/l	7 d	Pimephales promelas		
	Crustacea toxicity	NOEC 8590 mg/l	7 d	Ceriodaphnia spec		

**12.2. Persistence and degradability**

The product has not been tested. There are no data available on the mixture itself. AOX (mg/l): 0

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-17-5	ethanol	-0,31
107-21-1	ethanediol, ethylene glycol	-1,36

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The product has not been tested.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

This chemical is a VOC according to 99/13/EC.

**Further information**

No special environmental measures are necessary.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**



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070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

**List of Wastes Code - used product**

070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Water (with cleaning agent). Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)**

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
Hazard label: 3  
Classification code: F1  
Special Provisions: 144 601  
Limited quantity: 1 L  
Excepted quantity: E2  
Transport category: 2  
Hazard No: 33  
Tunnel restriction code: D/E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
Hazard label: 3  
Classification code: F1  
Special Provisions: 144 601  
Limited quantity: 1 L  
Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
Hazard label: 3  
Marine pollutant: no  
Special Provisions: 144  
Limited quantity: 1 L  
Excepted quantity: E2  
EmS: F-E, S-D

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**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Special Provisions:	A3 A58 A180
Limited quantity Passenger:	1 L
Passenger LQ:	Y341
Excepted quantity:	E2
IATA-packing instructions - Passenger:	353
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	364
IATA-max. quantity - Cargo:	60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Combustible liquids.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Directive 2010/75/EU on industrial emissions: No information available.

Directive 2004/42/EC on VOC in paints and varnishes: No information available.

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

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**Abbreviations and acronyms**

Flam. Liq: Flammable liquids  
Acute Tox: Acute toxicity  
Eye Irrit: Eye irritation  
STOT RE: Specific target organ toxicity - repeated exposure  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA: International Air Transport Association  
IMDG: International Maritime Code for Dangerous Goods  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level  
WEL: Workplace Exposure Limits  
TWA (EC): Time-Weighted Average  
ATE: Acute Toxicity Estimate  
ATEL (EC): Short Term Exposure Limit  
LC50: Lethal Concentration  
EC50: half maximal Effective Concentration  
ErC50: means EC50 in terms of reduction of growth rate

**Relevant H and EUH statements (number and full text)**

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

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*