

## Safety Data Sheet

according to UK REACH Regulation

### Etchant according to Le CHATELIER

Revision date: 28.03.2024

Product code: 11843.xxxxx

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

##### 1.1. Product identifier

Etchant according to Le CHATELIER

UFI: JSS1-C13Q-C007-UAH4

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

###### Use of the substance/mixture

For use as an etchant in metallography. Use as laboratory reagent. Intended for scientific research and development.

###### Uses advised against

Any non-intended use.

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

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60      Telefax: +49 (0) 69 / 400 3019-64  
E-mail: info@morphisto.de  
Contact person: Morphisto GmbH  
E-mail: gefahrstoffmanagement@morphisto.de  
Internet: http://www.morphisto.de

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

#### SECTION 2: Hazards identification

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

###### GB CLP Regulation

Met. Corr. 1; H290  
Flam. Liq. 2; H225  
Eye Irrit. 2; H319  
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

Signal word: Danger

Pictograms:



###### Hazard statements

H225 Highly flammable liquid and vapour.  
H290 May be corrosive to metals.  
H319 Causes serious eye irritation.  
H412 Harmful to aquatic life with long lasting effects.

###### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P234 Keep only in original packaging.  
P273 Avoid release to the environment.

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Wear protective gloves/protective clothing/eye protection/face protection.

**Labelling of packages where the contents do not exceed 125 ml**
**Signal word:** Danger

**Pictograms:**

**Hazard statements**

H412

**2.3. Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

**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			80 - < 85 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			
7758-89-6	copper (I) chloride			1 - < 5 %
	231-842-9	029-001-00-4	01-2119513341-55	
	Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H312 H302 H315 H318 H400 H410			
78-93-3	butanone			< 1 %
	201-159-0	606-002-00-3	01-2119457290-43	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
7647-01-0	hydrochloric acid %			< 1 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H290 H314 H318 H335			
88-89-1	picric acid			< 1 %
	201-865-9	609-009-00-X		
	Expl. 1.1, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3; H201 H331 H311 H301			

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

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**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	80 - < 85 %
		inhalation: LC50 = 124,7 mg/l (vapours); dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg Eye Irrit. 2; H319: >= 50 - 100	
7758-89-6	231-842-9	copper (I) chloride	1 - < 5 %
		dermal: LD50 = 1244 mg/kg; oral: LD50 = 336 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=1	
78-93-3	201-159-0	butanone	< 1 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 2054 mg/kg	
7647-01-0	231-595-7	hydrochloric acid %	< 1 %
		oral: LD50 = 2222 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100	
88-89-1	201-865-9	picric acid	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: LC50 = 0,51 mg/l (dusts or mists); dermal: LD50 = 300,1 mg/kg; oral: LD50 = 200 mg/kg	

**Further Information**

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

Self-protection of the first aider Remove casualty to fresh air and keep warm and at rest. Take off immediately all contaminated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Provide fresh air. Remove casualty to fresh air and keep warm and at rest. Never give anything by mouth to an unconscious person or a person with cramps. If unconscious but breathing normally, place in recovery position and seek medical advice. If experiencing respiratory symptoms: Call a doctor.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Causes burns. In the case of all acid injuries, it is essential to consult a doctor. Chemical burns may be noticed after several hours!

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**After ingestion**

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

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

Causes severe skin burns and eye damage. Ingestion causes burns of the upper digestive and Respiratory tract.

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

Treat symptomatically.

**SECTION 5: Firefighting measures**
**5.1. Extinguishing media**
**Suitable extinguishing media**

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

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Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

High power water jet.

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

Highly flammable. Vapours can form explosive mixtures with air. In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Hydrogen chloride (HCl). Carbon oxide dichloride (CCl<sub>2</sub>O). Chlorine (Cl<sub>2</sub>).

**5.3. Advice for firefighters**

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**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Provide fresh air.

**For non-emergency personnel**

Clear danger zone. Follow emergency plan. Consult an expert.

**For emergency responders**

Move undamaged containers from immediate hazard area if it can be done safely. Stop and contain spill/release if it can be done safely. If this cannot be done, allow fire to burn under control.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk. Eliminate leaks immediately. Shafts and sewers must be protected from entry of the product.

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

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

**For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Other information**

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory). After each use, wash hands with plenty of water. Always close containers tightly after the removal of product. Wear personal protection equipment (refer to section 8). Wear anti-static footwear and clothing

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air. Provide earthing of containers, equipment, pumps and

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ventilation facilities. The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration. Wear anti-static footwear and clothing

#### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

#### Further information on handling

Take off contaminated clothing and wash it before reuse. Street clothing should be stored separately from work clothing. Before starting work, apply solvent-resistant skincare preparations. Draw up and observe skin protection programme.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Unsuitable container/equipment material: Metal. Keep only in original packaging.

##### Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate.

##### Further information on storage conditions

Protect against: UV-radiation/sunlight. heat. Take precautionary measures against static discharges. Make sure spills can be contained, e.g. in sump pallets or kerbed areas.  
 Recommended storage temperature: 15-25 °C

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

For use as an etchant in metallography. Use as laboratory reagent. Intended for scientific research and development.

### 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
78-93-3	Butan-2-one (methyl ethyl ketone)	200	600		TWA (8 h)	WEL
		300	899		STEL (15 min)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL
88-89-1	Picric acid	-	0.1		TWA (8 h)	WEL
		-	0.3		STEL (15 min)	WEL

##### Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
78-93-3	Butan-2-one	butan-2-one	70 µmol/L	urine	Post shift

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**DNEL/DMEL values**

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
64-17-5	Ethanol		
Worker DNEL, acute	inhalation	local	1900 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term	inhalation	systemic	950 mg/m <sup>3</sup>
Consumer DNEL, acute	inhalation	local	950 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	114 mg/m <sup>3</sup>
Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day
7758-89-6	copper (I) chloride		
Worker DNEL, long-term	inhalation	systemic	1 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	local	1 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	137 mg/kg bw/day
78-93-3	butanone		
Worker DNEL, long-term	inhalation	systemic	600 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	1161 mg/kg bw/day
7647-01-0	hydrochloric acid %		
Worker DNEL, acute	inhalation	local	15 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	local	8 mg/m <sup>3</sup>

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**PNEC values**

CAS No	Substance	Value
Environmental compartment		
64-17-5	Ethanol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Marine water (intermittent releases)		2,75 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		0,72 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg
7758-89-6	copper (I) chloride	
Freshwater		0,0078 mg/l
Marine water		0,0052 mg/l
Freshwater sediment		87 mg/kg
Marine sediment		676 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,23 mg/l
Soil		65 mg/kg
78-93-3	butanone	
Freshwater		55,8 mg/l
Freshwater (intermittent releases)		55,8 mg/l
Marine water		55,8 mg/l
Freshwater sediment		284,7 mg/kg
Marine sediment		284,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		709 mg/l
Soil		22,5 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Technical measures and the application of suitable work processes have priority over personal protection equipment. Soils have to conform to the "Guidelines for avoidance of ignition hazards due to electrostatic charges (TRGS 727)". Take action to prevent static discharges. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them. Use extractor hood (laboratory).

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

Suitable eye protection: goggles. Safety goggles with side protection. In case of increased risk add protective face shield. Safety glasses according to EN 166.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four

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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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Recommended material:

NBR (Nitrile rubber): Breakthrough time >480min. Layer thickness: 0,5mm

Butyl rubber.: Breakthrough time >480min. Layer thickness: 0,5mm

FKM (fluororubber): Breakthrough time >480min. Layer thickness 0,4mm

CR (polychloroprenes, Chloroprene rubber): Layer thickness 0,5mm Breakthrough time >=120min.

Before using check leak tightness / impermeability.

**Skin protection**

Lab apron. Flame-retardant protective clothing. Wear anti-static footwear and clothing

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

Recommended material: Combination filtering device (EN 14387), Type: A/ABEK2-P2.

**Thermal hazards**

Flame-retardant protective clothing. Wear anti-static footwear and clothing

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid	
Colour:	slightly yellowish	
Odour:	stinging, alcoholic.	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		78 °C
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		12 °C
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value:		not determined
Viscosity / kinematic:		not determined
Water solubility: (at 20 °C)		easily soluble
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure: (at 20 °C)		58 hPa
Density (at 20 °C):		0,82 g/cm <sup>3</sup>
Relative vapour density:		not determined
Particle characteristics:		not applicable

**9.2. Other information**
**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Sustaining combustion:

Sustaining combustion



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Oxidizing properties  
Combustible.

**Other safety characteristics**

Evaporation rate: not determined  
Solvent content: not determined  
Solid content: not determined

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

Corrosive to metals.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidizing agents. Reducing agents. sulphuric acid peroxides, for example hydrogen peroxide Alkalis (alkalis).  
Acids. Oxids. Chlorates. Chlorids.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Take precautionary measures against static discharge.

**10.5. Incompatible materials**

Keep away from: Metal.

**10.6. Hazardous decomposition products**

Hydrogen chloride (HCl). Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>). Carbon oxide dichloride (CCl<sub>2</sub>O).

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

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

**ATEmix calculated**

ATE (oral) 20144 mg/kg; ATE (dermal) 49154 mg/kg; ATE (inhalation vapour) 857,1 mg/l; ATE (inhalation dust/mist) 145,7 mg/l

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	Ethanol				
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	
	inhalation (4 h) vapour	LC50 124,7 mg/l	Rat	ECHA Dossier	
7758-89-6	copper (I) chloride				
	oral	LD50 336 mg/kg	Rat.	suppliers SDS.	
	dermal	LD50 1244 mg/kg	Rat.	suppliers SDS.	
78-93-3	butanone				
	oral	LD50 2054 mg/kg	Ratte	SDB Lieferant	
	dermal	LD50 >2000 mg/kg	Rabbit	ECHA Dossier	
7647-01-0	hydrochloric acid %				
	oral	LD50 2222 mg/kg	Rat	suppliers SDS.	
88-89-1	picric acid				
	oral	LD50 200 mg/kg	Rat	RTECS	
	dermal	LD50 300,1 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation (4 h) dust/mist	LC50 0,51 mg/l			

**Irritation and corrosivity**

Causes serious eye irritation.

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

**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.

**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.

**Aspiration hazard**

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

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

This product does not contain any substance that has endocrine disrupting properties in humans as no ingredient meets the criteria.

**Other information**

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

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

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-17-5	Ethanol					
	Acute fish toxicity	LC50 mg/l	14200	96 h	Pimephales promelas (fathead minnow)	ECHA Dossier
	Acute algae toxicity	ErC50 mg/l	275 mg/l	72 h	Chlorella vulgaris	ECHA Dossier
	Acute crustacea toxicity	EC50 mg/l	5012	48 h	Ceriodaphnia dubia (water flea)	ECHA Dossier
	Crustacea toxicity	NOEC	9,6 mg/l	9 d	Daphnia magna	ECHA Dossier
7758-89-6	copper (I) chloride					
	Acute fish toxicity	LC50 mg/l	0,0384	96 h	fish	suppliers SDS. GESTIS
78-93-3	butanone					
	Acute fish toxicity	LC50 mg/l	2993	96 h	Pimephales promelas	ECHA Dossier OECD 203
	Acute algae toxicity	ErC50 mg/l	1972	72 h	Pseudokirchnerella subcapitata	ECHA Dossier OECD 201
	Acute crustacea toxicity	EC50	308 mg/l	48 h	Daphnia magna	ECHA Dossier OECD 202

**12.2. Persistence and degradability**

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-17-5	Ethanol			
	other guideline	84%	20	ECHA Dossier
	Biodegradable.			
78-93-3	butanone			
		98%	28	ECHA Dossier
	Readily biodegradable (according to OECD criteria).			

**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
78-93-3	butanone	0,3

**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.

**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**

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No information available.

#### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

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

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

##### List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; 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

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Ethanol, Salzsäure)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3+8



Classification code:	FC
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	338
Tunnel restriction code:	D/E

#### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 2924
<b>14.2. UN proper shipping name:</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Ethanol, Salzsäure)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II

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Hazard label: 3+8



Classification code: FC  
Special Provisions: 274  
Limited quantity: 1 L  
Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2924  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, hydrochloric acid)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II

Hazard label: 3+8



Special Provisions: 274  
Limited quantity: 1 L  
Excepted quantity: E2  
EmS: F-E, S-C

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

**14.1. UN number or ID number:** UN 2924  
**14.2. UN proper shipping name:** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ethanol, hydrochloric acid)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II

Hazard label: 3+8



Special Provisions: A3  
Limited quantity Passenger: 0.5 L  
Passenger LQ: Y340  
Excepted quantity: E2  
IATA-packing instructions - Passenger: 352  
IATA-max. quantity - Passenger: 1 L  
IATA-packing instructions - Cargo: 363  
IATA-max. quantity - Cargo: 5 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Combustible liquid. strongly corrosive. corrosive.

**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**

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Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to Directive  
2012/18/EU (SEVESO III):

P5c FLAMMABLE LIQUIDS

#### Additional information

This preparation is hazardous in the sense of regulation (EC) No 1272/2008 [GHS].

#### 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):

3 - highly hazardous to water

#### 15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

Ethanol

copper (I) chloride

butanone

hydrochloric acid %

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

Rev.: 1,00; 25.02.2021; New generation for the purpose of customer order.

Rev. 2,0; 28.03.2024; general adjustment(s)

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**Abbreviations and acronyms**

Expl: Explosives  
Met. Corr: Corrosive to metals  
Flam. Liq: Flammable liquids  
Acute Tox: Acute toxicity  
Skin Corr: Skin corrosion  
Skin Irrit: Skin irritation  
Eye Dam: Eye damage  
Eye Irrit: Eye irritation  
STOT SE: Specific target organ toxicity - single exposure  
Aquatic Acute: Acute aquatic hazard  
Aquatic Chronic: Chronic aquatic hazard  
CLP: Classification, labelling and Packaging  
REACH: Registration, Evaluation and Authorization of Chemicals  
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
UN: United Nations  
CAS: Chemical Abstracts Service  
DNEL: Derived No Effect Level  
DMEL: Derived Minimal Effect Level  
PNEC: Predicted No Effect Concentration  
ATE: Acute toxicity estimate  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%  
LL50: Lethal loading, 50%  
EL50: Effect loading, 50%  
EC50: Effective Concentration 50%  
ErC50: Effective Concentration 50%, growth rate  
NOEC: No Observed Effect Concentration  
BCF: Bio-concentration factor  
PBT: persistent, bioaccumulative, toxic  
vPvB: very persistent, very bioaccumulative  
ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Regulations concerning the international carriage of dangerous goods by rail  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
IMDG: International Maritime Code for Dangerous Goods  
EmS: Emergency Schedules  
MFAG: Medical First Aid Guide  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
IBC: Intermediate Bulk Container  
VOC: Volatile Organic Compounds  
SVHC: Substance of Very High Concern  
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>  
EC/EEC: European Community/European Economic Community  
EU: European Union  
M-factor: Multiplying factor  
IATA: International Air Transport Association  
DGR: Dangerous Goods Regulations  
ICAO: International Civil Aviation Organization  
TI: Technical Instructions  
VOC: volatile organic compound  
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety

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assessment, chapter R.20 (Table of terms and abbreviations).

#### Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
Aquatic Chronic 3; H412	Calculation method

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

H201	Explosive; mass explosion hazard.
H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. 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.

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