

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 18 (replaces version 17)

Revision: 14.11.2023

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

· **1.1 Product identifier**

· **Product name: Chloride-1**

· **Catalog number:** 424336, 419204, 424336-0

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS02

GHS07

· **Signal word** Danger

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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.
P280 Wear protective gloves/protective clothing/eye protection.
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.
P403+P235 Store in a well-ventilated place. Keep cool.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Vapours have anaesthetic effect.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

CAS: 78-93-3 butanone	List II 0,1-1%
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SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Description: Solvent mixture with additives.

Dangerous components:

Ethanol denatured with MEK/IPA (methyl ethyl ketone / isopropanol)

CAS: 64-17-5 EINECS: 200-578-6 Index No: 603-002-00-5 Reg.nr.: 01-2119457610-43-XXXX	ethanol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319	90-100%
CAS: 78-93-3 EINECS: 201-159-0 Index No: 606-002-00-3 Reg.nr.: 01-2119457290-43-XXXX	butanone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	0.1-1%
CAS: 67-63-0 EINECS: 200-661-7 Index No: 603-117-00-0 Reg.nr.: 01-2119457558-25-XXXX	propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	0.1-1%

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information Instantly remove any clothing soiled by the product.

After inhalation Supply fresh air; consult doctor in case of symptoms.

After skin contact Instantly wash with water and soap and rinse thoroughly.

After eye contact Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed:

irritations

Drying-out effect resulting in rough and chapped skin.

after inhalation:

mucosal irritations, cough, shortness of breath

after swallowing:

sickness

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vomiting
 after swallowing and inhalation:
 absorption
 after absorption:
 headache
 dizziness
 drowsiness
 CNS disorders
 ataxia (impaired locomotor coordination)
 breathing difficulty
 cramps
 unconsciousness
 coma

· Danger

Danger of system failure.
 Danger of impaired breathing.

· 4.3 Indication of any immediate medical attention and special treatment needed:

If swallowed or in case of vomiting, danger of entering the lungs

SECTION 5: Firefighting measures

· 5.1 Extinguishing media**· Suitable extinguishing agents**

CO₂, extinguishing powder or water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

· For safety reasons unsuitable extinguishing agents Water with a full water jet.

· 5.2 Special hazards arising from the substance or mixture

Can form explosive gas-air mixtures.

combustible

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Carbon monoxide (CO) and carbon dioxide (CO₂)

· 5.3 Advice for firefighters**· Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· Additional information

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures**· Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

· Advice for emergency responders: Protective equipment: see section 8

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.

Prevent material from reaching sewage system, holes and cellars.

Damp down gases/fumes/haze with water spray jet.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:**
Use only in well ventilated areas.
Protect from heat.
Keep ignition sources away - Do not smoke.
Take action to prevent static discharges.
- **Hygiene measures:**
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Store container in a well ventilated position.
Protect from the effects of light.
Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:

CAS: 64-17-5 ethanol

WEL (Great Britain)	Long-term value: 1920 mg/m ³ , 1000 ppm
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CAS: 78-93-3 butanone

WEL (Great Britain)	Short-term value: 899 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm Sk, BMGV
IOELV (European Union)	Short-term value: 900 mg/m ³ , 300 ppm Long-term value: 600 mg/m ³ , 200 ppm

· Regulatory information

WEL (Great Britain): EH40/2020

IOELV (European Union): (EU) 2019/1831

· Additional information: IOELV = Indicative Occupational Exposure Limit

· DNELs

Derived No Effect Level (DNEL)

CAS: 64-17-5 ethanol

Oral	DNEL	87 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	343 mg/kg (Worker / long-term /systemic effects)
		206 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	1900 mg/m ³ (Worker / acute / local effects)
		950 mg/m ³ (Worker / long-term /systemic effects)
		950 mg/m ³ (Consumer / acute / local effects)
		114 mg/m ³ (Consumer / long-term / systemic effects)

CAS: 78-93-3 butanone

Oral	DNEL	31 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	1161 mg/kg (Worker / long-term /systemic effects)
		412 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	600 mg/m ³ (Worker / long-term /systemic effects)

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		106 mg/m ³ (Consumer / long-term / systemic effects)
CAS: 67-63-0 propan-2-ol		
Oral	DNEL	26 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	888 mg/kg (Worker / long-term / systemic effects)
		319 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	500 mg/m ³ (Worker / long-term / systemic effects)
		89 mg/m ³ (Consumer / long-term / systemic effects)

· **Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· **PNECs**

Predicted No Effect Concentration (PNEC)

CAS: 64-17-5 ethanol		
PNEC		580 mg/l (Sewage treatment plant)
		0.79 mg/l (Marine water)
		2.75 mg/l (Aquatic intermittent release)
		0.96 mg/l (Fresh water)
PNEC		0.63 mg/kg (Soil)
		3.6 mg/kg (Fresh water sediment)
CAS: 78-93-3 butanone		
PNEC		55.8 mg/l (Fresh water)
PNEC		22.5 mg/kg (Soil)
		287.7 mg/kg (Marine sediment)
		55.8 mg/kg (Marine water)
		284.74 mg/kg (Fresh water sediment)
CAS: 67-63-0 propan-2-ol		
PNEC		140.9 mg/l (Marine water)
		140.9 mg/l (Fresh water)
PNEC		28 mg/kg (Soil)
		552 mg/kg (Marine sediment)
		552 mg/kg (Fresh water sediment)

· **Ingredients with biological limit values:**

CAS: 78-93-3 butanone		
BMGV (Great Britain)		70 µmol/L
		Medium: urine
		Sampling time: post shift
		Parameter: butan-2-one

· **Regulatory information** BMGV (Great Britain): EH40/2011

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· **Individual protection measures, such as personal protective equipment**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Eye/face protection**

Safety glasses

Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.

· **Hand protection**

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.35 mm

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· Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Other skin protection (body protection): Solvent resistant protective clothing**· Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.**· Recommended filter device for short term use:** Filter A**· Environmental exposure controls**

Do not allow product to reach sewage system or water bodies.

Risk of explosion.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Physical state	Fluid
· Form:	Solution
· Colour:	Colourless
· Odour:	Alcohol-like
· Odour threshold:	CAS 64-17-5: 0.1 - 5058.5 ppm
· Melting point/Freezing point:	114.5°C (CAS 64-17-5)
· Boiling point or initial boiling point and boiling range	78.3°C (CAS: 64-17-5 ethanol)
· Flammability	Highly flammable liquid and vapour.
· Explosive properties:	Product is not explosive. However, formation of explosive air/steam mixtures is possible.
· Lower and upper explosion limit	
Lower:	3.1 Vol % (CAS: 64-17-5 ethanol)
Upper:	27.7 Vol % (CAS: 64-17-5 ethanol)
· Flash point:	12°C (c.c. CAS: 64-17-5 ethanol)
· Auto-ignition temperature:	425°C (CAS: 64-17-5 ethanol)
	Not determined.
· Decomposition temperature:	Not determined.
· pH at 20°C	4.1
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure at 20°C:	59 hPa (CAS 64-17-5, CAS: 64-17-5 ethanol)
	Not determined.
· Density and/or relative density	
· Density at 20°C:	0.8 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).

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

· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	< 1 %
· Solvent content:	
· Organic solvents:	> 95 %

SECTION 10: Stability and reactivity

· 10.1 Reactivity Fumes can combine with air to form an explosive mixture.**· 10.2 Chemical stability** Stable at ambient temperature (room temperature).**· 10.3 Possibility of hazardous reactions**

Nitric acid

Reacts with acids

Reacts with alkaline metals

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Reacts with alkaline earth metals
 Reacts with reducing agents
 Reacts with strong oxidizing agents
 Reacts with halogenated compounds
 Reacts with peroxides
 ---> Explosive
 --> exothermic reaction
 · **10.4 Conditions to avoid** Heating.
 · **10.5 Incompatible materials:**
 rubber
 various plastics
 · **10.6 Hazardous decomposition products:**
 Inflammable gases/vapours
 In case of fire: see section 5.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

CAS: 64-17-5 ethanol

Oral	LD50	10470 mg/kg (rat) OECD 401
Dermal	LD50	>20000 mg/kg (rabbit)

CAS: 78-93-3 butanone

Oral	LD50	3400 mg/kg (rat) (OECD 401)
Dermal	LD50	>8000 mg/kg (rabbit)

CAS: 67-63-0 propan-2-ol

Oral	LD50	5045 mg/kg (rat) (RTECS)
	LDLo	3570 mg/kg (human) (RTECS)
Dermal	LD50	12800 mg/kg (rabbit) (RTECS)
Inhalative	LC50/4h	37.5 mg/l (rat) (OECD 403, vapour)

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

· **Serious eye damage/irritation** Causes serious eye irritation.

· **Information on components:**

CAS 64-17-5, 78-93-3: chronic: dermatitis

CAS: 64-17-5 ethanol

Irritation of skin	OECD 404	(rabbit: no irritation) (ECHA, registrant)
Irritation of eyes	OECD 405	(rabbit: irritation)

CAS: 78-93-3 butanone

Irritation of skin	OECD 404	(rabbit: slight irritation) (IUCLID)
Irritation of eyes	OECD 405	(rabbit: severe irritations)

CAS: 67-63-0 propan-2-ol

Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 405	(rabbit: irritation)

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS: 64-17-5 ethanol

Sensitisation	OECD 406	(guinea pig: negative) (read across CAS 67-56-1)
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CAS: 78-93-3 butanone		
Sensitisation	OECD 406	(guinea pig: negative) (IUCLID)
CAS: 67-63-0 propan-2-ol		
Sensitisation	OECD 406	(guinea pig: negative) (IUCLID)

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.

· Information on components:		
CAS: 64-17-5 ethanol		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Salmonella typhimurium)	
CAS: 78-93-3 butanone		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (IUCLID)	
CAS: 67-63-0 propan-2-ol		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (Salmonella typhirium, IUCLID)	
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test)	
OECD 474	(negative) (Mammalian Erythrocyte Micronucleus Test)	

- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on likely routes of exposure

Under occupational conditions, the main uptake route for ethanol is through the respiratory tract. [GESTIS]
 The main intake pathways for butanone (MEK) are via the respiratory tract and the skin. [GESTIS]
 The main route of uptake for 2-propanol under commercial conditions is through the respiratory tract. [GESTIS]

· Additional toxicological information:

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.
 Vapours and aerosols may be irritant to the mucous membranes and upper respiratory tract.
 CAS 78-93-3 is skin-resorbing.

CAS: 64-17-5 ethanol		
.	(source: GESTIS) Main toxic effects: Acute: Irritant effect on the eyes (liquid ethanol); disorders of well-being; due to high doses disturbance of the central nervous system. In case of acute inhalative exposure, ethanol has a low toxicity. The odor becomes noticeable in the range of 80 ppm, the threshold for eye irritation is much higher (>10000 ppm). High exposures can cause coughing and tears. chronic: degreasing of the skin (liquid ethanol); ingestion of high doses causes damage to various organ systems, especially the liver.	
CAS: 78-93-3 butanone		
.	(source: GESTIS) Main toxic effects: Acute: Irritant effect on the eyes and respiratory tract, disturbance of the central nervous system (narcotic effect) chronic: skin damage	
CAS: 67-63-0 propan-2-ol		
.	(source: GESTIS) Main toxic effects: acute: irritating effect of the vapors (depending on the concentration) on the mucous membranes; irritating effect of the liquid on the eyes and mucous membranes of the digestive tract. Systemic effects after massive intoxication: disturbance of the central nervous and cardiovascular systems chronic: skin damage (very rare), no reports of systemic effects from exposure under industrial conditions	

· 11.2 Information on other hazards

· Endocrine disrupting properties		
CAS: 78-93-3	butanone	List II 0,1-1%

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Other information

According to the information available to us, the chemical, physical and toxicological properties of the substances mentioned in Chapter 3 have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:****CAS: 64-17-5 ethanol**

LC50	8140 mg/l/48h (gold orfe) (IUCLID)
EC50	9268–14221 mg/l/48h (Daphnia magna) (IUCLID)
NOEC	9.6 mg/l (Daphnia magna) (9d) (ECHA)

CAS: 78-93-3 butanone

EC50	5091 mg/l/48h (Daphnia magna) (IUCLID)
LC50	3220 mg/l/96h (fathhead minnow) (IUCLID)

CAS: 67-63-0 propan-2-ol

EC50	13299 mg/l/48h (Daphnia magna) (IUCLID)
EC5	4930 mg/l (Entosiphon sulcatum) (72h)
IC50	>1000 mg/l/72h (Desmodesmus subspicatus) (IUCLID)
LC50	1400 mg/l/96h (bluegill) (ECOTOX)

Bacterial toxicity:**CAS: 64-17-5 ethanol**

EC5	6500 mg/l (Pseudomonas putida) (16h)
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CAS: 78-93-3 butanone

EC5	1150 mg/l (Pseudomonas putida) (16h) (IUCLID)
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CAS: 67-63-0 propan-2-ol

EC5	1050 mg/l (Pseudomonas putida) (16h)
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12.2 Persistence and degradability**CAS: 64-17-5 ethanol**

OECD 301 E	94 % (readily biodegradable) (Modified OECD Screening Test)
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CAS: 67-63-0 propan-2-ol

OECD 301 E	95 % / 21 d, aerob (readily biodegradable) (Modified OECD Screening Test)
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12.3 Bioaccumulative potential

log Pow < 1 = Does not accumulate in organisms.

CAS: 64-17-5 ethanol

log Pow	-0.32 (.)
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CAS: 78-93-3 butanone

log Pow	0.29 (.) (experimental)
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CAS: 67-63-0 propan-2-ol

log Pow	0.05 (.) (OECD 107)
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12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects Avoid transfer into the environment.

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· Water hazard:

Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods**· Recommendation**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
14 06 03*	other solvents and solvent mixtures

· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number	UN1170
· ADR, IMDG, IATA	
· 14.2 UN proper shipping name	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
· ADR	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
· IMDG	ETHANOL SOLUTION
· IATA	
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	II
· ADR, IMDG, IATA	
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Kemler Number:	33
· EMS Number:	F-E,S-D
· Stowage Category	A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ):	E2

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· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
<hr style="border-top: 1px dashed black;"/>	
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Poisons Act UK**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

CAS: 78-93-3 | butanone

3

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

CAS: 78-93-3 | butanone

3

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Substances of very high concern (SVHC) according to UK REACH**

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· **Directive 2012/18/EU (SEVESO III):**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category** P5c FLAMMABLE LIQUIDS

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50000 t

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2023

Version number 18 (replaces version 17)

Revision: 14.11.2023

Product name: Chloride-1

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- **National regulations**
- **VOC-value EC:** 763.1 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

- **Training hints** Provide adequate information, instruction and training for operators.
- **Relevant phrases**
 - H225 Highly flammable liquid and vapour.
 - H319 Causes serious eye irritation.
 - H336 May cause drowsiness or dizziness.
 - EUH066 Repeated exposure may cause skin dryness or cracking.
- **Abbreviations and acronyms:**
 - ICAO: International Civil Aviation Organisation
 - EC50: effective concentration, 50 percent (in vivo)
 - OECD: Organisation for Economic Co-operation and Development
 - STOT: specific target organ toxicity
 - SE: single exposure
 - RE: repeated exposure
 - EC50: half maximal effective concentration
 - IC50: half maximal inhibitory concentration
 - NOEL or NOEC: No Observed Effect Level or Concentration
 - c.c.: closed cup
 - ADR: Accord relatif au transport international 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)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised 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: Derived No-Effect Level (UK REACH)
 - PNEC: Predicted No-Effect Concentration (UK REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - SVHC: Substances of Very High Concern
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 2: Flammable liquids – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- **Sources**
 - Data arise from safety data sheets, reference works and literature.
 - RTECS (Registry of Toxic Effects of Chemical Substances)
 - IUCLID (International Uniform Chemical Information Database)
 - ECHA: European Chemicals Agency <http://echa.europa.eu>
 - GESTIS- Stoffdatenbank (Substance Database, Germany)
- *** Data compared to the previous version altered.**