

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.01.2023

Version number 5 (replaces version 4)

Revision: 26.01.2023

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

1.1 Product identifier

- **Trade name:** **L 5034**
- **Article number:** 285138308
- **Description:** Ethanol saturated with lithium chloride
- **Product code:** scho0006

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

- **Product category:** PC21 Laboratory chemicals
- **Process category:** PROC15 Use as laboratory reagent
- **Application of the substance / the preparation:** Electrolyte solution

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

Xylem Analytics Germany GmbH
Dr.-Karl-Slevogt-Str. 1
82362 Weilheim
Germany

Contact: SI Analytics, Mainz
Tel. +49.(0)6131.66.5111

- **Further information obtainable from:** E-Mail: msds.si@xylem.com

1.4 Emergency telephone number: Chemtrec: (USA & Canada) 800-424-9300 (International) 001 703-527-3887

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.

2.2 Label elements:

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

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

- **Hazard pictograms:** GHS02

- **Signal word:** Danger

- **Hazard statements:**

H225 Highly flammable liquid and vapour.

- **Precautionary statements:**

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

P240 Ground and bond container and receiving equipment.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards No further relevant information available.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5	ethanol	 Flam. Liq. 2, H225	50 – 100%
CAS: 7447-41-8 EINECS: 231-212-3	lithium chloride	 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	5 – < 10%

· **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

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Wash with plenty of water.

Take off contaminated clothing.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Make victim drink water immediately (2 glasses at most).

Do not induce vomiting (risk of perforation)

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

Dizziness

Vomiting

· **Hazards**

Danger of impaired breathing.

Danger of pulmonary oedema.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

· **Suitable extinguishing agents:** CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

5.2 Special hazards arising from the substance or mixture

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.

May form explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

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

Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Ensure adequate ventilation

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Keep away from ignition sources.

· **6.2 Environmental precautions:**

Do not empty into drain. Risk of explosion!

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **6.3 Methods and material for containment and cleaning up:**

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

Send for recovery or disposal in suitable receptacles.

· **6.4 Reference to other sections** See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Use solvent-proof equipment.

· **Information about fire - and explosion protection:**

Keep away from sources of ignition and hot surfaces.

Protect against electrostatic charges.

Wear shoes with conductive soles.

Fumes can combine with air to form an explosive mixture.

Flammable gas-air mixtures may form in empty receptacles.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Provide solvent resistant, sealed floor.

· **Information about storage in one common storage facility:** Store away from oxidising agents.

· **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

Store at room temperature (15-25 °C).

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see item 7.

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

· **General protective and hygienic measures:**

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

Take off contaminated clothing and wash it before reuse.

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

Only required when fog or aerosols are generated or when the workplace is not sufficiently ventilated.

Filter: E

· **Hand protection** Protective gloves recommended for frequent or long-term skin contact.

· **Material of gloves**

Fluorocarbon rubber (Viton)

Recommended thickness of the material: ≥ 0.4 mm

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Nitrile rubber, NBR

- **Eye/face protection** Safety glasses
- **Body protection:** Light weight protective clothing
- **Environmental exposure controls**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Colour:	Colourless
· Odour:	Alcohol-like
· Melting point/freezing point:	ca. -115 °C
· Boiling point or initial boiling point and boiling range	78 °C
· Flammability	Highly flammable.
· Lower and upper explosion limit	
· Lower:	3.5 Vol %
· Upper:	15.0 Vol %
· Flash point:	13 °C (geschlossener Tiegel)
· Ignition temperature:	425 °C
· pH at 20 °C	7
· Viscosity:	
· Kinematic viscosity at 20 °C	1.4 mm ² /s
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	-0.3 log POW (Ethanol)
· Vapour pressure at 20 °C:	59 hPa
· Density and/or relative density	
· Density at 20 °C:	0.8 g/cm ³

· 9.2 Other information

Fumes are heavier than air.

· Important information on protection of health and environment, and on safety.

- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	
Highly flammable liquid and vapour.	
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void

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· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
 - Reacts with strong oxidising agents.
 - Reacts with base metals forming hydrogen.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

- **Acute toxicity**

No quantitative toxicity data are available for this product.
Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

64-17-5 ethanol

Oral	LD50	6200 mg/kg (Rat) (IUCLID)
Inhalative	LC50	95.6 mg/l, 4 h (Rat) (RTECS)

7447-41-8 lithium chloride

Oral	LD50	526 mg/kg (Rat) (RTECS)
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- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.
- **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**

None of the ingredients is listed.

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SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

64-17-5 ethanol

EC50 9268 – 14221 mg/l, 48 h (Daphnia magna) (IUCLID)

EC5 6500 mg/l, 16 h (Pseudomonas putida) (IUCLID)

LC50 8140 mg/l, 48 h (Leuciscus idus) (IUCLID)

· **12.2 Persistence and degradability** The organic part of the mixture is easily biodegradable.

· 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment** Not applicable.

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· **Recommendation** Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 07 00	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 04*	other organic solvents, washing liquids and mother liquors

· Uncleaned packaging:

· Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR/RID, IMDG, IATA

UN1170

· 14.2 UN proper shipping name

· ADR/RID, IMDG

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· IATA

ETHANOL SOLUTION

· 14.3 Transport hazard class(es)

· ADR/RID, IMDG, IATA



· Class

3 Flammable liquids.

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· Label	3
· 14.4 Packing group · ADR/RID, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· ADR/RID · Limited quantities (LQ) · Transport category · Tunnel restriction code	1L 2 D/E
· UN "Model Regulation":	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

- 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

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

· Relevant phrases

H225 Highly flammable liquid and vapour.

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H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Date of previous version:** 30.01.2020· **Version number of previous version:** 4· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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