

Safety data sheet

according to Regulation (EC) No 1907/2006 (REACH)

Printing date 17.04.2015

Version number 2

Revision: 05.02.2015

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:

No further relevant information available.

- Application of the substance / the preparation: Electrolyte solution
- Manufacturer/Supplier:

SI Analytics GmbH
Hattenbergstr. 10
55122 Mainz
Deutschland
Tel.: +49 6131 66-5111

- Further information obtainable from: E-Mail: msds.si@xyleminc.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.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC:



F+; Highly flammable

R11: Highly flammable.

- Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements:

- 2.2.1 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/bond container and receiving equipment.

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

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SECTION 3: Composition/information on ingredients

• 3.2 Chemical characterization:

- 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  F R11  Flam. Liq. 2, H225	50-100%
CAS: 7447-41-8 EINECS: 231-212-3	lithium chloride  Xn R22;  Xi R36/38  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	5-10%

- Additional information: For the wording of the listed risk 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

Disziness
Vomiting
Narcotic effect

• Hazards

Danger of cutaneous absorption.
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.

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

• **Additional information about design of technical facilities:** No further data; see item 7.

• **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**

• **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:**

Not necessary if room is well-ventilated.

Filter A

• **Protection of hands:** Protective gloves recommended for frequent or long-term skin contact.

• **Material of gloves**

Fluorocarbon rubber (Viton)

Recommended thickness of the material: $\geq 0,4$ mm

Nitrile rubber, NBR

• **Eye protection:** Safety glasses

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- Body protection: Light weight protective clothing

SECTION 9: Physical and chemical properties

• 9.1 Information on basic physical and chemical properties	
• General Information	
• Appearance:	
Form:	Fluid
Colour:	Colourless
• Odour:	Alcohol-like
• Change in condition	
Melting point/Melting range:	ca. -115 °C
Boiling point/Boiling range:	ca. 78 °C
• Flash point:	ca. 12 °C (geschlossener Tiegel)
• Ignition temperature:	ca. 425 °C
• Self-igniting:	Product is not selfigniting.
• Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
• Explosion limits:	
Lower:	3,5 Vol %
Upper:	15,0 Vol %
• Vapour pressure at 25 °C:	ca. 40 hPa
• Density:	0,795 g/cm ³
• Solubility in / Miscibility with water:	Fully miscible.
• Partition coefficient (n-octanol/water):	-0,3 log POW (Ethanol)
• Viscosity:	
Kinematic at 25 °C:	1,4 mm ² /s
• Solvent content:	
Organic solvents:	> 90 %
• 9.2 Other information	Fumes are heavier than air.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: Vapours can form an explosive mixture with air.
- 10.3 Possibility of hazardous reactions
 - Reacts with strong oxidising agents.
 - Reacts with base metals forming hydrogen.
 - Reactions with alkali metal oxides, non-metal halides, hydrides, fluorine, mercury compounds, silver compounds.
- 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.

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SECTION 11: Toxicological information

• 11.1 Information on toxicological effects

• Acute toxicity:

• 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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• Primary irritant effect:

• on the skin: No irritant effect.

• on the eye: No irritating effect.

• Sensitisation: No sensitising effects known.

• Additional toxicological information:

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

Danger through skin adsorption.

SECTION 12: Ecological information

• 12.1 Toxicity

• Aquatic toxicity:

64-17-5 ethanol

EC5	6500 mg/l, 16 h (Pseudomonas putida) (IUCLID)
EC50	9268-14221 mg/l, 48 h (Daphnia magna) (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.

• Additional ecological information:

• 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.

• **12.6 Other adverse effects** No further relevant information available.

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.

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- Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

<ul style="list-style-type: none"> • 14.1 UN-Number • ADR, IMDG, IATA 	UN1170
<ul style="list-style-type: none"> • 14.2 UN proper shipping name • ADR • IMDG • IATA 	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION
<ul style="list-style-type: none"> • 14.3 Transport hazard class(es) • ADR, IMDG, IATA 	
 <ul style="list-style-type: none"> • Class • Label 	3 Flammable liquids. 3
<ul style="list-style-type: none"> • 14.4 Packing group • ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> • 14.5 Environmental hazards: • Marine pollutant: • Danger code (Kemler): • EMS Number: 	No 33 F-E,S-D
<ul style="list-style-type: none"> • 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> • Transport/Additional information: 	
<ul style="list-style-type: none"> • ADR • Limited quantities (LQ) • Transport category • Tunnel restriction code 	1L 2 D/E
<ul style="list-style-type: none"> • UN "Model Regulation": 	UN1170, 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**
No further relevant information available.
- **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.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- R11 Highly flammable.
- R22 Harmful if swallowed.
- R36/38 Irritating to eyes and skin.

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- **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 européen sur le transport 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

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

- * Data compared to the previous version altered.

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