

SAFETY DATA SHEET

according to Regulation (EU) No. 453/2010

Electrolyte LiCl 1 mol/l in ethanol

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product code 51350088, 51343183

Synonyms None.

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

Use of the Substance/Preparation Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification Mettler-Toledo AG
ANALYTICAL
Sonnenbergstrasse 74
CH-8603 Schwerzenbach
Schweiz
Tel: +41-44-806-77-11
Fax: +41-44-806-73-50
Email: ph.lab.support@mt.com

1.4. Emergency telephone number +41-44-251 51 51 (Tox Center)

Revision Date 07.03.2014

Version GHS 1

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP)

Flammable liquids, Cat. 2, H225

The product is classified and labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP).

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F; R11

Additional information

For the full text of the phrases mentioned in this Section, see Section 16.

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225: Highly flammable liquid and vapour.

Precautionary statements

P210b: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243: Take precautionary measures against static discharge.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Additional advice

None.

GHS product identifier

Ethanol; Ethyl alcohol, CAS-No. 64-17-5, EC-No. 200-578-6
Lithiumchlorid, CAS-No. 7447-41-8, EC-No. 231-212-3
butanone; ethyl methyl ketone, CAS-No. 78-93-3, EC-No. 201-159-0

Labelling according to Directives 67/548/EEC or 1999/45/EC



F - Highly flammable.

R-phrases(s)

R11: Highly flammable.

S-phrases(s)

S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.

Hazardous component(s) which must be listed on the label

Ethanol; Ethyl alcohol, CAS-No. 64-17-5, EC-No. 200-578-6
Lithiumchlorid, CAS-No. 7447-41-8, EC-No. 231-212-3
butanone; ethyl methyl ketone, CAS-No. 78-93-3, EC-No. 201-159-0

2.3. Other hazards

No information available.

3. Composition/information on ingredients

Chemical characterization Alcoholic solution.

Components		CLP Classification	DSD/DPD Classification	CAS	REACH No.
Ethanol; Ethyl alcohol	90% - 95%	Flam. Liq. 2 H225	F; R-11	64-17-5	200-578-6
Lithiumchlorid	5% - 7.5%	Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315	Xn; R-22-36/38	7447-41-8	231-212-3
butanone; ethyl methyl ketone	1% - 2.5%	Eye Irrit. 2 H319, STOT SE 3 H336, Flam. Liq. 2 H225, EUH066	F,Xi; R-11-36-66-67	78-93-3	201-159-0

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities None known.

4. First aid measures

4.1. Description of first aid measures

Inhalation	Move to fresh air in case of accidental inhalation of vapours or decomposition products. Call a physician or poison control centre immediately.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion	Rinse mouth. Drink 1 or 2 glasses of water. If swallowed, seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed If you feel unwell, seek medical advice (show the label where possible).

4.3. Indication of any immediate medical attention and special treatment needed None known.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Foam. Carbon dioxide (CO₂). Dry powder.

Extinguishing media which must not be used for safety reasons

High volume water jet.

5.2. Special hazards arising from the substance or mixture

Combustible liquid. Solvents may produce excessive pressure under fire-conditions. Sealed containers may rupture and ignite. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

5.3. Advice for firefighters

Special protective equipment for firefighters

Standard procedure for chemical fires. In the event of fire, wear self-contained breathing apparatus. Wear protective suit.

Specific methods

Water mist may be used to cool closed containers.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

Ensure adequate ventilation. Use personal protective equipment. Sweep up to prevent slipping hazard. Avoid contact with skin and eyes. Do not breathe vapours/dust. Remove all sources of ignition. Pay attention to flashback.

Advice for emergency responders

Use personal protective equipment. Sweep up to prevent slipping hazard. Remove all sources of ignition. Pay attention to flashback.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

6.4. Reference to other sections

See chapter 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from heat and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store in a place accessible by authorized persons only.

7.3. Specific end use(s)

No information available.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s) No data is available on the product itself.

Ethyl alcohol (CAS 64-17-5)

Ireland - Occupational Exposure Limits - STELs 1000 ppm STEL

United Kingdom - Workplace Exposure Limits (WELs) - STELs 3000 ppm STEL (calculated)
5760 mg/m³ STEL (calculated)

United Kingdom - Workplace Exposure Limits (WELs) - TWAs 1000 ppm TWA
1920 mg/m³ TWA

Methyl ethyl ketone (CAS 78-93-3)

EU - Occupational Exposure (2000/39/EC) - First List of Indicative Occupational Exposure Limit Values - TWAs 200 ppm TWA
600 mg/m³ TWA

EU - Occupational Exposure (2000/39/EC) - First List of Indicative Occupational Exposure Limit Values - STELs 300 ppm STEL
900 mg/m³ STEL

Ireland - Occupational Exposure Limits - TWAs 200 ppm TWA
600 mg/m³ TWA

Ireland - Occupational Exposure Limits - STELs 300 ppm STEL
900 mg/m³ STEL

United Kingdom - Workplace Exposure Limits (WELs) - STELs 300 ppm STEL
899 mg/m³ STEL

United Kingdom - Workplace Exposure Limits (WELs) - TWAs 200 ppm TWA
600 mg/m³ TWA

8.2. Exposure controls

Occupational exposure controls Handle in accordance with good industrial hygiene and safety practice.

Personal protection equipment

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment. Respirator with combination filter for vapour/particulate (EN 141).

Hand protection The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Solvent-resistant gloves (butyl-rubber) Break through time: > 8 h.

Eye protection Safety glasses with side-shields conforming to EN166.

Skin and body protection Long sleeved clothing.

Thermal hazards Heating can release vapours which can be ignited. Container may rupture on heating.

Environmental exposure controls Prevent product from entering surface water or sewage.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Odour Threshold	No information available.
pH:	7 (solv.)
Melting point/range:	<-100 °C (solv.)
Boiling point/range:	78 °C (CAS: 64-17-5)
Flash point:	12 °C (CAS: 64-17-5)
Evaporation Rate:	No information available.
Flammability:	No information available.
Explosion limits:	3.5 - 15 Vol% (solv.)
Vapour pressure:	58 mbar (20°C) (CAS: 64-17-5)
Vapor density:	1.03 (20°C) (CAS: 64-17-5)
Relative density:	0.79 (CAS: 64-17-5)
Water solubility:	soluble
Partition coefficient (n-octanol/water):	Log Pow: -0.3
Autoignition temperature:	400°C (CAS: 64-17-5)
Decomposition temperature:	No information available.
Viscosity:	1.2 mPas (solv.)
Combustion/explosion hazards:	liquid, flammable
Oxidizing properties:	None

9.2. Other information

10. Stability and reactivity

10.1. Reactivity	May form explosive mixtures in air.
10.2. Chemical stability	Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions	Vapors may ignite and explode.
10.4. Conditions to avoid	Heat, flames and sparks.
10.5. Incompatible materials	Zirconium(IV) chloride, zirconium(IV) iodide, uranium hexafluoride, platinum powder, phosphorus trioxide, lithium hydride, potassium tert-butoxide, oxirane, chromyl chloride, bromine trifluoride.
10.6. Hazardous decomposition products	None reasonably foreseeable.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity	No data is available on the product itself. Ethyl alcohol (CAS 64-17-5) Inhalation LC50 Rat = 124.7 mg/L 4 h (LOLI) Lithium chloride (CAS 7447-41-8) Oral LD50 Rat = 526 mg/kg (IUCLID) Methyl ethyl ketone (CAS 78-93-3) Inhalation LC50 Rat = 23500 mg/m ³ 8 h (IUCLID)
Skin corrosion/irritation	Slight skin irritation.
Serious eye damage/eye irritation	Mild eye irritation.
Respiratory / Skin Sensitisation	No data available.
Carcinogenicity	No data available.
Germ cell mutagenicity	No data available.
Reproductive toxicity	No data available.
Specific target organ toxicity (single exposure)	No data available.
Specific target organ toxicity (repeated exposure)	No data available.
Aspiration hazard	No data available.
Human experience	No data available.
Information on likely routes of exposure	dermal inhalativ
Other information	The product contains no substances which at their given concentration, are considered to be hazardous to health.

12. Ecological information

12.1. Toxicity	No data is available on the product itself.
Ethyl alcohol (CAS 64-17-5) Ecotoxicity - Freshwater Fish - Acute Toxicity Data	96 h LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static] 96 h LC50 Pimephales promelas: >100 mg/L [static] 96 h LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]
Ecotoxicity - Water Flea - Acute Toxicity Data	48 h LC50 Daphnia magna: 9268 - 14221 mg/L 48 h EC50 Daphnia magna: 2 mg/L [Static]
Methyl ethyl ketone (CAS 78-93-3) Ecotoxicity - Freshwater Fish - Acute Toxicity Data	96 h LC50 Pimephales promelas: 3130 - 3320 mg/L [flow-through]

Ecotoxicity - Water Flea - Acute Toxicity Data	48 h EC50 Daphnia magna: >520 mg/L 48 h EC50 Daphnia magna: 5091 mg/L 48 h EC50 Daphnia magna: 4025 - 6440 mg/L [Static] Expected to be biodegradable.
12.2. Persistence and degradability	
12.3. Bioaccumulative potential	Bioaccumulation is unlikely.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	No information available.
12.6. Other adverse effects	No information available.

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of as unused product.

14. Transport information

ADR/RID	Proper shipping name ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) UN No 1170. Class 3. Packing group II. ADR/RID-Labels 3. Classification code F1. Risk No. 33. Limited quantity 1 L. Tunnel code D/E
IMDG	Proper shipping name Ethanol solution (Ethyl alcohol solution) UN No 1170. Class 3. Packing group II. IMDG-Labels 3. Limited quantity 1 L. EmS F-E, S-D. Marine Pollutant no

IATA	Proper shipping name Ethanol solution (Ethyl alcohol solution) UN No 1170. Class 3. IATA label 3. Packing group II. Packing instruction (passenger aircraft): 353 (5 L). Packing instruction (LQ): Y341 (1 L). Packing instruction (cargo aircraft): 364 (60 L).
Inland navigation ADN	Proper shipping name ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) UN No 1170. Class 3. Packing group II. ADN labels 3. ADN danger 3.
Further Information	None.

15. Regulatory information

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

Regulatory Information	The product is classified and labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP).
Ethyl alcohol (CAS 64-17-5)	
EU - Biocides (1451/2007) - Existing Active Substances	Present
EU - REACH (1907/2006) - Article 15(1) - Substances Regarded as Being Registered - Plant Health Products	Present
EU - REACH (1907/2006) - List of Registered Substances	Present
Lithium chloride (CAS 7447-41-8)	
EU - REACH (1907/2006) - List of Registered Substances	Present
Methyl ethyl ketone (CAS 78-93-3)	
EU - Narcotics (1277/2005) - Implementing Export Requirements - Category 3 - Individual Export Authorizations	Subject to individual export authorization (Afghanistan, Australia, Antigua and Barbuda, Argentina, Benin, Bolivia, Brazil, Canada, Cayman Islands, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Ghana, Guatemala, Haiti, Honduras, India, Jordan, Kazakhstan, Lebanon, Madagascar, Malaysia, Maldives, Mexico, Nigeria, Oman, Pakistan, Paraguay, Peru, Philippines, Republic of Moldova, Republic of Korea, Russian Federation, Saudi Arabia, Tajikistan, Turkey, United Arab Emirates, United Republic of Tanzania, Uruguay, Venezuela)
EU - Narcotics (111/2005) - Implementing Export Requirements - Scheduled Substances	Category 3 Substance
EU - Narcotics (111/2005) - Measures to Discourage Illicit Manufacture	Category 3 Substance

EU - REACH (1907/2006) - List of Registered Substances	Present
EU - REACH (1907/2006) - List of Registered Intermediates	Present
UN (United Nations) - Selected Volatile Substances Prone to Abuse	Present
15.2. Chemical safety assessment	Not required.

16. Other information

Revision Note	Safety datasheet sections which have been updated: 1-16.
Key or legend to abbreviations and acronyms	None.
Key literature references and sources for data	Information taken from reference works and the literature.
Classification procedure	Calculation method.
Full text of phrases referred to under sections 2 and 3	<p>EUH066: Repeated exposure may cause skin dryness or cracking. H225: Highly flammable liquid and vapour. H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness.</p> <p>R11: Highly flammable. R22: Harmful if swallowed. R36/38: Irritating to eyes and skin. R36: Irritating to eyes. R66: Repeated exposure may cause skin dryness or cracking. R67: Vapours may cause drowsiness and dizziness.</p>
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. It is not to be considered a warranty or quality specification.