Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing 30.07.2026 version number 33 (replaces version 32) Revision: 30.07.2026

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

***1.1 Product identifier**
***Trade name:** **ELECTRODE FILLING SOLUTION**
1.0M LITHIUM CHLORIDE IN ETHANOL

***Article number:** EFSLIET
***Registration number**
A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
***UFI:** XVD1-H03D-600F-U26M
***1.2 Relevant identified uses of the substance or mixture and uses advised against**
***Product category** For experiments, research, or testing purposes only. Prohibited of use for other purposes.
***Application of the substance / the mixture** Laboratory Chemicals

***1.3 Details of the supplier of the safety data sheet**
***Manufacturer/Supplier:**
Reagecon Diagnostics Ltd.
Shannon Free Zone,
Shannon,
Co. Clare,
Ireland.
Tel +353 61 472622
Fax +353 61 472642

***Further information obtainable by contacting:** sds@reagecon.ie
***1.4 Emergency telephone number:**
National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24 hour service)

For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC
For Ireland call +(353)-19014670
For Outside Ireland call +1 703-741-5970 / 1-800-424-9300 CCN849800

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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 CLP regulation.
***Hazard pictograms**



GHS02 GHS07

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***Signal word** Danger
***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.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

***2.3 Other hazards**
***Results of PBT and vPvB assessment**
***PBT:** Not applicable
***vPvB:** Not applicable

***Determination of endocrine-disrupting properties**		
CAS: 7447-41-8	lithium chloride	List III

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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	ethyl alcohol Flam. Liq. 2, H225; Eye Irrit. 2, H319	50-100%
CAS: 7447-41-8 EINECS: 231-212-3	lithium chloride Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	≥2.5-<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:**
Provide fresh air, warmth and rest. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Obtain medical attention if any discomfort continues.
***After skin contact:** Generally the product does not irritate the skin.
***After eye contact:**
Promptly wash eyes with plenty of water for up to 15 minutes. Open eyes wide apart and rinse well to remove any contact lenses. Do not remove contact lenses by hand. Continue to rinse. Get medical attention if symptoms persist.
***After swallowing:** If symptoms persist consult doctor.
***4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
***4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 5: Firefighting measures

***5.1 Extinguishing media**
***Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
***For safety reasons unsuitable extinguishing agents:**
Water
Water with full jet
***5.2 Special hazards arising from the substance or mixture** No further relevant information available.
***5.3 Advice for firefighters**
***Protective equipment:**
Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers

SECTION 6: Accidental release measures

***6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment as described in Section 8 below. Keep unprotected persons away.
***6.2 Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Do not allow to enter sewers/ surface or ground water.
***6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
***6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

***7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
No special precautions are necessary if used correctly.
***Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

***7.2 Conditions for safe storage, including any incompatibilities**
***Storage:**
***Requirements to be met by storerooms and receptacles:** Store in a cool location.
***Information about storage in one common storage facility:** Not required
***Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
***7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

***8.1 Control parameters**

***Ingredients with limit values that require monitoring at the workplace:**	
CAS: 64-17-5 ethyl alcohol	
OEL (Ireland)	Short-term value: 1000 ppm
PEL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
REL (USA)	Long-term value: 1900 mg/m³, 1000 ppm
TLV (USA)	Short-term value: 1880 mg/m³, 1000 ppm A3

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

***8.2 Exposure controls**
***Appropriate engineering controls** No further data; see section 7.
***Individual protection measures, such as personal protective equipment**
***General protective and hygienic measures:** Wash hands before breaks and at the end of work.
***Respiratory protection:**
Not required
Where risk assessment shows air-purifying respirators are appropriate use a respirator with multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges as back up to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
***Hand protection**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Always ensure that gloves are inspected before use.
Selection of protective gloves must include consideration of the penetration times along with rates of diffusion and degradation. The selected glove should comply with the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it.
***Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
***Penetration time of glove material**
In the absence of data above, the exact break through time has to be sourced from the manufacturer of the protective gloves and has to be observed.

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***Eye/face protection**



*Tightly sealed goggles: Use equipment for eye protection tested and approved under appropriate government standards
such as NIOSH (US) or EN 166(EU)*

*
SECTION 9: Physical and chemical properties

***9.1 Information on basic physical and chemical properties**

***General Information**	
***Physical state**	Liquid
***Colour:**	Colourless
***Odour:**	Characteristic
***Odour threshold:**	Not determined
***Melting point/freezing point:**	-114.5 °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 Vol %
***Flash point:**	13 °C
***Auto-ignition temperature:**	425 °C
***Decomposition temperature:**	Not determined
***pH**	Not determined
***Viscosity:**	
***Kinematic viscosity**	Not determined
***Dynamic:**	Not determined
***Solubility**	
***water at 20 °C:**	1.000 g/l
***Partition coefficient n-octanol/water (log value)**	Not determined
***Vapour pressure at 20 °C:**	59 hPa
***Density and/or relative density**	
***Density at 20 °C:**	0.88988 g/cm³
***Relative density**	Not determined
***Vapour density**	Not determined
***Particle characteristics**	Not applicable

***9.2 Other information**

***Appearance:**	
***Form:**	Liquid
***Important information on protection of health and environment, and on safety.**	
***Ignition temperature:**	Product is not selfigniting.
***Explosive properties:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
***Solvent content:**	
***Organic solvents:**	95.8 %
***Change in condition**	
***Evaporation rate**	Not determined

***Information with regard to physical hazard classes**

***Explosives**	Void
***Flammable gases**	Void
***Aerosols**	Void

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***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*
***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 according to specifications.
***10.3 Possibility of hazardous reactions** No dangerous reactions known.
***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 hazard classes as defined in Regulation (EC) No 1272/2008**
***Acute toxicity** Based on available data, the classification criteria are not met.
***Primary irritant effect:**
***Skin corrosion/irritation** Based on available data, the classification criteria are not met.
***Serious eye damage/irritation** Causes serious eye irritation.
***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**		
CAS: 7447-41-8	*lithium chloride*	*List III*

SECTION 12: Ecological information

***12.1 Toxicity**
***Aquatic toxicity:** No further relevant information available.
***12.2 Persistence and degradability** No further relevant information available.
***12.3 Bioaccumulative potential** No further relevant information available.
***12.4 Mobility in soil** No further relevant information available.

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***12.5 Results of PBT and vPvB assessment**
***PBT:** Not applicable
***vPvB:** Not applicable
***12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
***12.7 Other adverse effects**
***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.

*
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**	
HP3	Flammable
HP4	Irritant - skin irritation and eye damage

***Uncleaned packaging:**
***Recommendation:** Disposal must be made according to official regulations.

*
SECTION 14: Transport information

***14.1 UN number or ID number**	
***ADR, IMDG, IATA**	UN1170
***14.2 UN proper shipping name**	
***ADR**	1170 ETHANOL (ETHYL ALCOHOL)
	1170 ETHANOL (ETHYL ALCOHOL)
***IMDG**	ETHANOL (ETHYL ALCOHOL)
***IATA**	ETHANOL
***14.3 Transport hazard class(es)**	
***ADR, IMDG, IATA**	



***Class**	3 Flammable liquids.
***Label**	3
***14.4 Packing group**	
***ADR, IMDG, IATA**	II
***14.5 Environmental hazards:**	
***Marine pollutant:**	No
***14.6 Special precautions for user**	Warning: Flammable liquids.
***Hazard identification number (Kemler code):**	33
***EMS Number:**	F-E,S-D
***Stowage Category**	A

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***14.7 Maritime transport in bulk according to IMO instruments**	Not applicable
***Transport/Additional information:**	
***ADR**	
***Limited quantities (LQ)**	1L
***Transport category**	2
***Tunnel restriction code**	D/E
***UN "Model Regulation":**	UN 1170 ETHANOL (ETHYL ALCOHOL), 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** 5,000 t
***Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
***REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
***Additional information on Entry 78**
The estimated overall proportion of microplastics in the mixture is approx. %
Process the product in closed systems or with suitable extraction/filtering techniques avoid release to soil wastewater surface water
Preferably clean equipment surfaces mechanically after use e g cloths collect residues as solid waste
Collect cleaning waters separately and forward them to appropriate disposal do not discharge into the sewer system
Collect product residues and contaminated packaging in closed containers do not rinse dispose of in accordance with legal requirements

***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.

***National regulations:**

***Breakdown regulations:**

Class	Share in %
NK	95.8

***Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

***Relevant Phrases:**
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

***Department issuing SDS:** Health and Safety*
***Contact:** sds@reagecon.ie*
***Date of previous version:** 08.04.2024*
***Version number of previous version:** 32*
***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)
ICAO: International Civil Aviation Organisation
REACH (Registration, Evaluation, Authorisation and restriction of Chemicals)
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)
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
***NO**