SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Commission Regulation (EU) 2020/878
and Regulation (EC) No. 1272/2008

Issuing Date 30-Aug-2017 **Revision Date** 01-May-2025 **Revision Number** 4

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

1.1. Product identifier

Product Name LITHIUM THIONYL CHLORIDE CELLS AND BATTERIES

Synonyms Hermetically-Sealed Lithium Thionyl Chloride Cells and Batteries – Including all 100, 150,165, 180, 200 Moderate Rate, QTC, MWD and VHT series

Synonyms None

Pure substance/mixture Mixture

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

Recommended use Battery

Uses advised against Do not short circuit or expose to temperatures higher than the maximum temperature rating specified by the manufacturer. Do not recharge, over charge or crush any cell or pack. Ensure cells and batteries are safely handled and stored. Review Section 7 completely before use

1.3. Details of the supplier of the safety data sheet

Manufacturer and Supplier
Electrochem Solutions
670 Paramount Drive
Raynham, MA 02767
T: 781-830-5800

For further information, please contact
E-mail address customersupport@electrochemsolutions.com

1.4. Emergency telephone number

Emergency telephone CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This product is not hazardous in supplied solid form. This product is an article which is a sealed battery and does not require an SDS unless ruptured. The hazards indicated are for a ruptured battery.

Acute toxicity - Oral	Category 4 - (H302)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Category 3 Respiratory irritation	

2.2. Label elements

Contains Thionyl chloride, Lithium

Signal word
Danger

Hazard statements
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.
EUH014 - Reacts violently with water
EUH029 - Contact with water liberates toxic gas

Precautionary Statements - EU (§28, 1272/2008)
P260 - Do not breathe dusts or mists.
P280 - Wear protective gloves/protective clothing and eye/face 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.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see supplemental first aid instructions on this label).

Unknown acute toxicity
5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Additional information
This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Thionyl chloride 7719-09-7	25-39	No data available	(016-015-00-0) 231-748-8	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Corr. 1A (H314) (EUH029) (EUH014)	STOT SE 3 :: C>=1%	-	-
Sodium chloride 7647-14-5	1.5-10	No data available	231-598-3	[C]	-	-	-
Lithium 7439-93-2	1.5-5	No data available	(003-001-00-4) 231-102-5	Skin Corr. 1B (H314) Water-react. 1 (H260) (EUH014)	-	-	-

Classification according to Regulation (EC) No. 1272/2008 [CLP] - Notes
[C] - Components with occupational exposure limits and/or biological occupational exposure limits requiring monitoring

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Thionyl chloride 7719-09-7	270	No data available	No data available	No data available	No data available
Sodium chloride 7647-14-5	3000	10010	10.5105	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician. Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed

	pulmonary edema may occur. Get immediate medical attention.
Eye contact	Call a doctor or poison control centre immediately. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	If skin irritation occurs: Get medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. Do not breathe dusts or mists.

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

Symptoms	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
Effects of Exposure	See Section 11 for additional Toxicological Information.

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Use of water spray when fighting a lithium fire may be inefficient. However, copious amounts of water may be used to cool a battery fire and extinguish any surrounding combustible fires.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	The electrolyte will release toxic sulfur dioxide gas. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dusts or mists.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up During a release, ensure the Personal Protection listed in Section 8 is worn. Neutralize any electrolyte contaminated surfaces with baking soda, soda lime or sodium bicarbonate. Transfer damaged battery and any clean up materials to a sealed container with a neutralizing material as stated above. Ensure the container is properly labeled.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Do not crush, pierce, short circuit (+) and (-) battery terminals with conductive (metal) goods. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non-conductive (plastic) trays. Cells or batteries that have been dropped or experience mechanical shock should be isolated and monitored for approximately 5 days to identify a possible internal short circuit and resulting fire. Do not breathe dusts or mists.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not breathe dusts or mists.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Do not store in high humidity environments. Never stack heavy objects on top of battery boxes. Keep batteries in original packaging until use and do not expose them to unnecessary or excessive handling. Keep containers tightly closed in a dry, cool and

well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

Storage class (TRGS 510) LGK 8A.

7.3. Specific end use(s)

Specific use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits The following exposure limits are provided for information only; exposure is not expected under normal conditions of use or storage.

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Thionyl chloride 7719-09-7	-	-	STEL: 0.2 ppm STEL: 1 mg/m^3	-	STEL: 1 ppm STEL: 4.9 mg/m^3
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Thionyl chloride 7719-09-7	-	-	Ceiling: 1 ppm Ceiling: 5 mg/m^3	-	Ceiling: 1 ppm Ceiling: 5 mg/m^3
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Thionyl chloride 7719-09-7	-	-	-	TWA: 1 ppm TWA: 5 mg/m^3 STEL: 1 ppm STEL: 5 mg/m^3	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Thionyl chloride 7719-09-7	STEL: 1.0 mg/m^3 STEL: 0.2 ppm	-	Ceiling: 0.2 ppm Ceiling: 0.97 mg/m^3	-	-
Sodium chloride 7647-14-5	-	-	-	TWA: 5 mg/m^3	TWA: 5 mg/m^3
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Thionyl chloride 7719-09-7	-	-	-	Ceiling: 1 ppm Ceiling: 5 mg/m^3	STEL: 3.6 mg/m^3 TWA: 1.8 mg/m^3
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Thionyl chloride 7719-09-7	Ceiling: 0.2 ppm	TWA: 3 ppm TWA: 15 mg/m^3 STEL: 5 ppm STEL: 25 mg/m^3	-	-	STEL: 1 ppm STEL: 4.9 mg/m^3

Chemical name	Sweden	Switzerland	United Kingdom
Thionyl chloride 7719-09-7	-	TWA: 1 ppm TWA: 5 mg/m^3	STEL: 1 ppm STEL: 4.9 mg/m^3
Lithium 7439-93-2	Bindande KGV: 0.02 mg/m^3	TWA: 0.2 mg/m^3 STEL: 0.2 mg/m^3	-

Biological occupational exposure limits

Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Lithium 7439-93-2	-	-	-	50 µg/L - BAR (not fixed) urine	-

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Thionyl chloride 7719-09-7	-	-	1 mg/m^3 [5] [6] 1 mg/m^3 [5] [7]

Chemical name	Oral	Dermal	Inhalation
Sodium chloride 7647-14-5	-	295.52 mg/kg bw/day [4] [6] 295.52 mg/kg bw/day [4] [7]	2068.62 mg/m^3 [4] [6] 2068.62 mg/m^3 [4] [7]
Lithium 7439-93-2	-	12 mg/kg bw/day [4] [6]	4.2 mg/m^3 [4] [6]

Notes

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Sodium chloride 7647-14-5	126.65 mg/kg bw/day [4] [6] 126.65 mg/kg bw/day [4] [7]	126.65 mg/kg bw/day [4] [6] 126.65 mg/kg bw/day [4] [7]	443.28 mg/m^3 [4] [6] 443.28 mg/m^3 [4] [7]
Lithium 7439-93-2	1.2 mg/kg bw/day [4] [6]	-	1.8 mg/m^3 [4] [6]

Notes

[4] Systemic health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Sodium chloride 7647-14-5	5 mg/L	-	-	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Sodium chloride 7647-14-5	-	-	500 mg/L	4.86 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection

None required for normal handling of the finished product. If necessary to handle damaged product where exposure to the electrolyte is a possibility, chemical splash goggles and a face shield are recommended. Tight sealing safety goggles. Face protection shield. Eye protection must conform to standard EN 166.

Hand protection

None required for normal handling of the finished product. If necessary to handle damaged product where exposure to the electrolyte is a possibility, chemically resistant gloves are

recommended. Wear suitable gloves. Impervious gloves. Gloves must conform to standard EN 374.

Skin and body protection None required for normal handling of the finished product. If necessary to handle damaged product where exposure to the electrolyte is a possibility, a chemically resistant apron is recommended. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not breathe dusts or mists.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid

Colour No information available

Odour None

Odour threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point	N/A	Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: -104.5 °C
Initial boiling point and boiling range	N/A	Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: 76.11 °C
Flammability	N/A	Not applicable unless there is exposure to an electrolyte
Flammability Limit in Air		Not applicable unless there is exposure to an electrolyte
Upper flammability or explosive limits	N/A	No data available
Lower flammability or explosive limits	N/A	No data available
Flash point	N/A	Not applicable unless there is exposure to an electrolyte
Autoignition temperature	N/A	Not applicable unless there is exposure to an electrolyte
Decomposition temperature		Not applicable unless there is exposure to an electrolyte
pH	N/A	Not applicable unless there is exposure to an electrolyte
pH (as aqueous solution)		No data available
Kinematic viscosity	N/A	Not applicable unless there is exposure to an electrolyte
Dynamic viscosity	N/A	Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: ca. 0.6 mPas @ 25°C
Water solubility		Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: Decomposes violently on contact with water

Solubility(ies)	N/A	Not applicable unless there is exposure to an electrolyte
Partition coefficient	N/A	Not applicable unless there is exposure to an electrolyte
Vapour pressure	N/A	Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: 97 mm Hg @ 20 °C
Relative density	N/A	Not applicable unless there is exposure to an electrolyte: Thionyl Chloride: 1.635
Bulk density		No data available
Liquid Density		No data available
Relative vapour density	N/A	Not applicable unless there is exposure to an electrolyte
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties	Not applicable unless there is exposure to an electrolyte
Oxidising properties	Not applicable unless there is exposure to an electrolyte

9.2.2. Other safety characteristics

Evaporation rate	N/A	Not applicable unless there is exposure to an electrolyte

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal use conditions. In the event of a leak or rupture: electrolyte and lithium will react with water.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent. Under normal use, batteries are not incompatible. The electrolyte is incompatible with:

10.6. Hazardous decomposition products

Hazardous decomposition products Lithium oxides. Sulfur dioxide. Hydrogen chloride. Bromine. Chlorine.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Product Information Exposure is not expected for product under normal conditions of use. In the event of an exposure to electrolyte the following toxicological information is provided:.

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes severe burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity Harmful if swallowed. Harmful by inhalation.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (oral) 1,229.50 mg/kg
ATEmix (inhalation-dust/mist) 3.71 mg/l

Unknown acute toxicity

5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Thionyl chloride	= 270 mg/kg (Rat)	-	= 2.717 mg/L (Rat) 4 h
Sodium chloride	= 3 g/kg (Rat)	> 10000 mg/kg (Rabbit)	> 42 mg/L (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

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 May cause respiratory irritation.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Target organ effects Eyes. Skin. Respiratory system. Gastrointestinal tract (GI). Kidney. Liver.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Avoid any release to waterways, groundwater, or any environmental media. Harmful effects due to pH shift are expected.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Sodium chloride 7647-14-5	-	LC50: 5560 - 6080mg/L (96h, Lepomis macrochirus) LC50: =12946mg/L (96h, Lepomis macrochirus) LC50: 6020 - 7070mg/L (96h, Pimephales promelas) LC50: =7050mg/L (96h, Pimephales promelas) LC50: 6420 - 6700mg/L (96h, Pimephales promelas) LC50: 4747 - 7824mg/L	-	EC50: =1000mg/L (48h, Daphnia magna) EC50: 340.7 - 469.2mg/L (48h, Daphnia magna)

		(96h, Oncorhynchus mykiss)		

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Thionyl chloride 7719-09-7	PBT assessment does not apply
Sodium chloride 7647-14-5	The substance is not PBT / vPvB
Lithium 7439-93-2	PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

Note: Intended for All lithium batteries:
Lithium cells and batteries must successfully pass the tests defined in “UN Manual of Tests and Criteria”, Section 38.3 and may require they be manufactured under a Quality Management Program. Lithium Metal and Lithium Ion cells and batteries, when shipped by

themselves (not in or with equipment) are forbidden as cargo on passenger aircraft and must be marked as “Cargo Air Only” if shipped by air (they must be marked “Cargo Air Only” for all modes of DOT transport). Lithium Ion cells and batteries, when shipped by themselves (not in or with equipment) by air must be shipped at or below 30% full charge. Note: Some regulations require a summary of test results and/or a copy of the Quality Management Programs be made available for Lithium cells and batteries
. For specific transport information for all variations of BCX cells, please review the Product Data Sheet. This can be sent upon request. Please contact the manufacturer.

If packed in or with equipment use UN3091.

IMDG

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	LITHIUM METAL BATTERIES
14.3 Transport hazard class(es)	9
14.4 Packing group	Not applicable
Description	UN3090, LITHIUM METAL BATTERIES, 9
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	188, 230, 310, 376, 377, 384, 387
EmS-No.	F-A, S-I
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number	UN3090
14.2 UN proper shipping name	LITHIUM METAL BATTERIES
14.3 Transport hazard class(es)	9
14.4 Packing group	Not applicable
Description	UN3090, LITHIUM METAL BATTERIES, 9
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	188, 230, 310, 376, 377, 387, 636
Classification code	M4

ADR

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	LITHIUM METAL BATTERIES
14.3 Transport hazard class(es)	9
14.4 Packing group	Not applicable
Description	UN3090, LITHIUM METAL BATTERIES, 9
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	188, 230, 310, 376, 377, 387, 636,
Classification code	M4
Tunnel restriction code	(E)

IATA

14.1 UN number or ID number	UN3090
14.2 UN proper shipping name	Lithium metal batteries
14.3 Transport hazard class(es)	9
14.4 Packing group	Not applicable
Description	UN3090, Lithium metal batteries, 9
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	A88, A99, A154, A164, A183, A201, A213, A334, A802
ERG Code	12FZ
Note:	None

SECTION 15: Regulatory information

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

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Sodium chloride 7647-14-5	RG 78

Germany

Water hazard class (WGK) slightly hazardous to water (WGK 1)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Thionyl chloride - 7719-09-7	75.	-
Lithium - 7439-93-2	75.	-

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

O1 - Substances or mixtures with hazard statement EUH014
O3 - Substances or mixtures with hazard statement EUH029

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

EU - Plant Protection Products (1107/2009/EC)

Chemical name	EU - Plant Protection Products (1107/2009/EC)
Sodium chloride - 7647-14-5	Plant protection agent

Biocidal Products Regulation (EU) No 528/2012 (BPR)

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Sodium chloride - 7647-14-5	Product-type 1: Human hygiene

International Inventories

Contact supplier for inventory compliance status

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
EUH014 - Reacts violently with water
EUH029 - Contact with water liberates toxic gas
H260 - In contact with water releases flammable gases which may ignite spontaneously
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled

Legend
ATE: Acute Toxicity Estimate
SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
SCBA	Self-contained breathing apparatus		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	On basis of test data
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date	30-Aug-2017
Revision Date	01-May-2025
Revision Note	Updated format.

This safety data sheet complies with the requirements of Commission Regulation (EU) 2020/878 of 18 June 2020 amending Regulation (EC) No. 1907/2006

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End of Safety Data Sheet