

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL<sub>2</sub>) NON-RECHARGEABLE  
**Synonym(s)** NSN: 5895-66-139-5278 • NSN: 6135-01-301-8776 • NSN: 6135-01-358-7471 • NSN: 6135-01-395-9089 • NSN: 6135-01-435-4921 • NSN: 6135-01-493-2736 • NSN: 6135-12-314-4105 • NSN: 6135-14-376-4875 • NSN: 6135-14-440-1213 • NSN: 6135-14-444-9055 • NSN: 6135-14-469-5737 • NSN: 6135-14-476-8989 • NSN: 6135-66-130-9369 • NSN: 6135-66-143-6206 • NSN: 6135-66-147-7858 • NSN: 6135-99-352-6919 • NSN: 6135-99-477-7557 • NSN: XXXX- 01-524-7621 • PART NO: 01-705-300 • PART NO: 185-5643 • PART NO: LS 14250 2PF • PART NO: LS 14250 C • PART NO: LSH14 • PART NO: LSH20 • PART NO: TL-5920/S LS 14250 • LS 14250 C • LS 14500 • LS 14500 C • LS 17500 • LSH 14 LITE • LSH 26180 • LST 14250 • LST 14500 • LST 17330

### 1.2 Uses and uses advised against

**Use(s)** GPS • NWSPO  
BATTERIES

### 1.3 Details of the supplier of the safety data sheet

**Supplier name** SAFT AUSTRALIA  
**Address** Unit 18, 167 Prospect Hwy, Seven Hills, NSW, Australia, 2141  
**Telephone** (02) 9674 0700  
**Fax** (02) 9620 9990  
**Email** Not supplied  
**Website** <http://www.saftbatteries.com>

### 1.4 Emergency telephone number(s)

**Emergency** +61 3 9573 3112 (24hrs) or 1800 039 008 (24hrs)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS Classification(s)** Acute Toxicity: Oral: Category 4  
Acute Toxicity: Skin: Category 4  
Skin Corrosion/Irritation: Category 1A  
Serious Eye Damage / Eye Irritation: Category 1  
Acute Toxicity: Inhalation: Category 4  
Contact with water liberates toxic gas

### 2.2 Label elements

**Signal word** DANGER

**Pictograms**



**Hazard statement(s)**

H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
AUH029 Contact with water liberates toxic gas

**Prevention statement(s)**

**Product name SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE**

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- 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/physician.
- P321 Specific treatment is advised - see first aid instructions.
- P363 Wash contaminated clothing before reuse.

**Storage statement(s)**

- P405 Store locked up.

**Disposal statement(s)**

- P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other Hazards**

NOTE: Hazard statement relates to battery contents. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically, physically or electrically abused.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

**3.1 Substances / Mixtures**

| Ingredient       | CAS number    | EC number     | Content   |
|------------------|---------------|---------------|-----------|
| ADDITIVE(S)      | Not Available | Not Available | remainder |
| THIONYL CHLORIDE | 7719-09-7     | 231-748-8     | 40 - 50%  |
| LITHIUM          | 7439-93-2     | 231-102-5     | 1 - 4.9%  |
| LITHIUM COMPLEX  | Not Available | Not Available | 4 - 7%    |

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

- Eye** Exposure is considered unlikely unless casing is damaged. Flush gently with running water. Seek medical attention if irritation develops.
- Inhalation** Exposure is considered unlikely. Due to product form / nature of use, an inhalation hazard is not anticipated.
- Skin** Exposure is considered unlikely unless casing is damaged. Gently flush affected areas with water. Seek medical attention if irritation develops.
- Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form. Rinse mouth out with water and give plenty of water to drink.
- First aid facilities** Eye wash facilities should be available.

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

Adverse effects not expected from this product. Exposure to battery contents may cause irritation and potential burns.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Dry agent. Do NOT use water. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Contents react with water. May explode if exposed to high temperatures due to pressure build up in battery casing. Lithium may burn in a fire situation and may be ejected from the battery. Damaged cells may evolve toxic and flammable vapours. May evolve sulphur oxides and hydrogen chloride when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

4W

- 4 Dry Agent (water MUST NOT be allowed to come into contact with substance).
- W Risk of violent reaction or explosion. Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

**6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

If spilt, collect and reuse where possible. If battery is broken or damaged, absorb liquid with sand or similar. Contain spillage, then collect and place in suitable containers for disposal. CAUTION: Avoid exposure to contents.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

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

Store tightly sealed in a cool, dry, well ventilated area, removed from water, incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

| Substance        | Reference | TWA |                   | STEL |                   |
|------------------|-----------|-----|-------------------|------|-------------------|
|                  |           | ppm | mg/m <sup>3</sup> | ppm  | mg/m <sup>3</sup> |
| Thionyl chloride | SWA (AUS) | 1   | 4.9               | --   | --                |

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**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering Controls** Avoid inhalation. Use in well ventilated areas. Maintain vapour levels below the recommended exposure standard.

**PPE**

|                    |                            |
|--------------------|----------------------------|
| <b>Eye/Face</b>    | No PPE specified.          |
| <b>Hand</b>        | Wear PVC or rubber gloves. |
| <b>Body</b>        | No PPE specified.          |
| <b>Respiratory</b> | No PPE specified.          |

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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

|                                  |               |
|----------------------------------|---------------|
| <b>Appearance</b>                | SOLID         |
| <b>Odour</b>                     | SLIGHT ODOUR  |
| <b>Odour Threshold</b>           | NOT AVAILABLE |
| <b>pH</b>                        | NOT AVAILABLE |
| <b>Melting Point</b>             | NOT AVAILABLE |
| <b>Boiling Point</b>             | NOT AVAILABLE |
| <b>Flash Point</b>               | NOT RELEVANT  |
| <b>Evaporation Rate</b>          | NOT AVAILABLE |
| <b>Flammability</b>              | NON FLAMMABLE |
| <b>Upper Explosion Limit</b>     | NOT RELEVANT  |
| <b>Lower Explosion Limit</b>     | NOT RELEVANT  |
| <b>Vapour Pressure</b>           | NOT AVAILABLE |
| <b>Vapour Density</b>            | NOT AVAILABLE |
| <b>Solubility (water)</b>        | INSOLUBLE     |
| <b>Partition Coefficient</b>     | NOT AVAILABLE |
| <b>Autoignition Temperature</b>  | NOT AVAILABLE |
| <b>Decomposition Temperature</b> | NOT AVAILABLE |
| <b>Viscosity</b>                 | NOT AVAILABLE |
| <b>Explosive Properties</b>      | NOT AVAILABLE |
| <b>Oxidising Properties</b>      | NOT AVAILABLE |
| <b>Specific Gravity</b>          | NOT AVAILABLE |

**9.2 Other information**

|                    |               |
|--------------------|---------------|
| <b>% Volatiles</b> | NOT AVAILABLE |
|--------------------|---------------|

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## 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

Carefully review all information in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Heat above 70°C or incinerate. Deform. Mutilate. Crush. Pierce. Disassemble. Recharge. Short circuit. Expose over a long period to humid conditions.

### 10.5 Incompatible materials

Battery contents are incompatible with water (evolving flammable gas), oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve hydrogen and lithium oxides when heated to decomposition.

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## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

|                                 |  |
|---------------------------------|--|
| <b>Acute toxicity</b>           | No specific acute toxicity data exists for this product. Batteries consist of a hermetically sealed metallic container containing a number of chemicals and materials of construction that may be hazardous upon release. Over exposure considered unlikely unless battery ruptures and contact with contents occurs. Contents may be harmful. |
| <b>Skin</b>                     | Not classified as a skin irritant unless the battery ruptures. Battery contents may be corrosive and cause irritation, redness, dermatitis and possible skin burns.  |
| <b>Eye</b>                      | Not classified as an eye irritant unless the battery ruptures. Battery contents may be corrosive and cause irritation, redness and possible eye burns.   |
| <b>Mutagenicity</b>             | No evidence of mutagenic effects.  |
| <b>Carcinogenicity</b>          | No evidence of carcinogenic effects.   |
| <b>Reproductive</b>             | No relevant or reliable studies were identified.   |
| <b>STOT - single exposure</b>   | Not classified as causing organ damage from single exposure. Due to the product form and nature of use, exposure to internal contents is not anticipated unless the battery ruptures. Exposure to contents may cause respiratory irritation.   |
| <b>STOT - repeated exposure</b> | Not expected to cause organ effects from repeated exposure. Due to the product form and nature of use, exposure to internal contents is not anticipated unless the battery ruptures.   |
| <b>Aspiration</b>               | Not relevant.  |
| <b>Sensitisation</b>            | Not classified as causing skin or respiratory sensitisation.   |

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

This product may be hazardous to the environment.

**12.2 Persistence and degradability**

This product is not readily biodegradable.

**12.3 Bioaccumulative potential**

Limited information was available at the time of this review.

**12.4 Mobility in soil**

This product has low mobility in soil.

**12.5 Results of PBT and vPvB assessment**

No information provided.

**12.6 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Reuse or recycle where possible. Return to manufacturer/supplier. Contact your state EPA or the manufacturer for additional information.  
**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



|  | Land Transport<br>(ADG)                                     | Sea Transport<br>(IMDG/IMO) | Air Transport<br>(IATA/ICAO) |
|--|---|-----------------------------|------------------------------|
| <b>14.1 UN number</b>                    | 3090  | 3090                        | 3090                         |
| <b>14.2 UN proper shipping name</b>      | LITHIUM METAL BATTERIES (including lithium alloy batteries) |                             |                              |
| <b>14.3 Transport hazard classes</b>     |   |                             |                              |
| <b>DG Class</b>                          | 9   | 9                           | 9                            |
| <b>Subsidiary risk(s)</b>                | None Allocated  | -                           | -                            |
| <b>14.4 Packing group</b>                | II  | II                          | II                           |
| <b>14.5 Environmental hazards</b>        |   | None Allocated              |                              |
| <b>14.6 Special precautions for user</b> |   |                             |                              |
| <b>Hazchem Code</b>                      | 4W  |                             |                              |
| <b>EMS</b>                               |   | F-A, S-I                    |                              |

**15. REGULATORY INFORMATION**

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

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).  
**Classifications** C - Corrosive  
 F+ - Extremely flammable

|                             |   |   |
|-----------------------------|---|---|
| <b>Product name</b>         | <b>SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE</b>  |   |
|                             | Xi - Irritant<br>Xn - Harmful   |   |
| <b>Risk phrases</b>         | R15/29:<br>R20/21/22:<br>R35:<br>R41:   | Contact with water liberates toxic, highly flammable gas.<br>Harmful by inhalation, in contact with skin and if swallowed.<br>Causes severe burns.<br>Risk of serious damage to eyes.   |
| <b>Safety phrases</b>       | S1:<br>S8:<br>S9:<br>S13:<br>S24/25:<br>S26:<br>S27:<br>S30:<br>S35:<br>S36/37/39:<br>S38:<br>S45:<br>S51:<br>S60:        | Keep locked up.<br>Keep container dry.<br>Keep container in a well ventilated place.<br>Keep away from food, drink and animal feeding stuffs.<br>Avoid contact with skin and eyes.<br>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice<br>Take off immediately all contaminated clothing.<br>Never add water to this product.<br>This material and its container must be disposed of in a safe way.<br>Wear suitable protective clothing, gloves and eye/face protection.<br>In case of insufficient ventilation, wear suitable respiratory equipment.<br>In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).<br>Use only in well ventilated areas.<br>This material and its container must be disposed of as hazardous waste. |
| <b>Inventory listing(s)</b> | <b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b><br>All components are listed on AICS, or are exempt. |   |

**15.2 Chemical safety assessment**

No information provided.

**16. OTHER INFORMATION**

**Additional information** The manufacturer describes the ingredient lithium complex as lithium aluminium chloride salts, unspecified (CAS number 14024-11-4).

**EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES:** Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**WORKPLACE CONTROLS AND PRACTICES:** Unless a less toxic chemical can be substituted for a hazardous substance, **ENGINEERING CONTROLS** are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**Abbreviations**

|                   |   |
|-------------------|---|
| ACGIH             | American Conference of Governmental Industrial Hygienists                                       |
| CAS #             | Chemical Abstract Service number - used to uniquely identify chemical compounds                 |
| CNS               | Central Nervous System  |
| EC No.            | EC No - European Community Number   |
| EMS               | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)                   |
| GHS               | Globally Harmonized System  |
| GTEPG             | Group Text Emergency Procedure Guide  |
| IARC              | International Agency for Research on Cancer   |
| LC50              | Lethal Concentration, 50% / Median Lethal Concentration   |
| LD50              | Lethal Dose, 50% / Median Lethal Dose   |
| mg/m <sup>3</sup> | Milligrams per Cubic Metre  |
| OEL               | Occupational Exposure Limit   |
| pH                | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm               | Parts Per Million   |
| STEL              | Short-Term Exposure Limit   |
| STOT-RE           | Specific target organ toxicity (repeated exposure)  |
| STOT-SE           | Specific target organ toxicity (single exposure)  |
| SUSMP             | Standard for the Uniform Scheduling of Medicines and Poisons                                    |
| SWA               | Safe Work Australia   |
| TLV               | Threshold Limit Value   |
| TWA               | Time Weighted Average   |

**Report Status**

This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

**Prepared By**

Risk Management Technologies  
 5 Ventnor Ave, West Perth  
 Western Australia 6005  
 Phone: +61 8 9322 1711  
 Fax: +61 8 9322 1794  
 Email: info@rmt.com.au  
 Web: www.rmt.com.au



Product name

**SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE**

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Based on SDS dated: 16 Apr 2013

**End of Report**