1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier
Product name: SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE
Synonym(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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>EC number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDITIVE(S)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>remainder</td>
</tr>
<tr>
<td>THIONYL CHLORIDE</td>
<td>7719-09-7</td>
<td>231-748-8</td>
<td>40 - 50%</td>
</tr>
<tr>
<td>LITHIUM</td>
<td>7439-93-2</td>
<td>231-102-5</td>
<td>1 - 4.9%</td>
</tr>
<tr>
<td>LITHIUM COMPLEX</td>
<td>Not Available</td>
<td>Not Available</td>
<td>4 - 7%</td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Reference</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thionyl chloride</td>
<td>SWA (AUS)</td>
<td>1</td>
<td>4.9</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

This report was compiled based on the SDS dated 16 Apr 2013

Reviewed: 08 Dec 2014
Printed: 20 Oct 2016
Product name: SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE

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:
- **Eye/Face**: No PPE specified.
- **Hand**: Wear PVC or rubber gloves.
- **Body**: No PPE specified.
- **Respiratory**: No PPE specified.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

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

9.2 Other information

% Volatiles: NOT AVAILABLE
10. STABILITY AND REACTIVITY

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

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.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Health Hazard
Summary
No information provided.

THIONYL CHLORIDE (7719-09-7)
LC50 (Inhalation): 500 ppm/1 hour (rat)

LITHIUM (7439-93-2)
LD50 (Intraperitoneal): 1 g/kg (mouse)

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

<table>
<thead>
<tr>
<th>Land Transport (ADG)</th>
<th>Sea Transport (IMDG/IMO)</th>
<th>Air Transport (IATA/ICAO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3090</td>
<td>3090</td>
<td>3090</td>
</tr>
</tbody>
</table>

14.1 UN number 3090

14.2 UN proper shipping name LITHIUM METAL BATTERIES (including lithium alloy batteries)

14.3 Transport hazard classes

<table>
<thead>
<tr>
<th>DG Class</th>
<th>Subsidiary risk(s)</th>
<th>None Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.4 Packing group II

14.5 Environmental hazards None Allocated

14.6 Special precautions for user

Hazchem Code 4W

EMS 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
- Xi - Irritant
- Xn - Harmful

Risk phrases:

- R15/29: Contact with water liberates toxic, highly flammable gas.
- R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
- R35: Causes severe burns.
- R41: Risk of serious damage to eyes.

Safety phrases:

- S1: Keep locked up.
- S8: Keep container dry.
- S9: Keep container in a well ventilated place.
- S13: Keep away from food, drink and animal feeding stuffs.
- S24/25: Avoid contact with skin and eyes.
- S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S27: Take off immediately all contaminated clothing.
- S30: Never add water to this product.
SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE

S35: This material and its container must be disposed of in a safe way.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S38: In case of insufficient ventilation, wear suitable respiratory equipment.
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
S51: Use only in well ventilated areas.
S60: This material and its container must be disposed of as hazardous waste.

Inventory listing(s)
AUSTRALIA: AICS (Australian Inventory of Chemical Substances)
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.

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/m³ Milligrams per Cubic Metre
SAFT LITHIUM THIONYL CHLORIDE (LI-SOCL2) NON-RECHARGEABLE

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.

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End of Report