

Safety data sheet
according to 830/2015/EC

Printing date: 07.06.2016

Revision: 07.06.2016

**SECTION 1: Identification of the substance/mixture and of the company/
undertaking****1.1 Product identifier****Trade name:** Lithium Metal Primary Battery**Other product identifiers:** No other identifiers**1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.**Application of the substance / the mixture:** Lithium-based battery product.**Uses advised against:** No further relevant information available.**1.3 Details of the supplier of the Safety Data Sheet****Manufacturer/Supplier:**

Sterno Products

1880 Compton Ave. #101

Corona, CA 92881

Phone: (951) 682-9600

1.4 Emergency telephone number:

ChemTel Inc.

(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

The product is not classified as hazardous according to the CLP regulation.

Additional information:

Note: Leaking cells pose health hazards: see Sections 4 and 11. Intentional abuse of cells or batteries increases the risk of harm or damage to the product, to the user, and to surrounding materials and personnel. Do not attempt to open sealed cells or batteries. Do not intentionally short-circuit cells or batteries. Do not expose these products to temperatures exceeding the maximum manufacturers rating. Do not dispose of cells/batteries in landfills. Please follow all manufacturer guidelines in the use, storage, and disposal of these products. Consult manufacturer in cases of questions involving specific product usage.

Exposure to product contents is highly unlikely during normal usage.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008** Not Regulated**Hazard pictograms** Not Regulated**Signal word** Not Regulated**Hazard-determining components of labelling:** Not applicable.**Hazard statements** Not Regulated**Precautionary statements** Not Regulated.**Additional information:**

Safety data sheet available on request.

2.3 Other hazards There are no other hazards not otherwise classified that have been identified.**Results of PBT and vPvB assessment****PBT:** Not applicable.

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· vPvB: Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Components:**

CAS: 7719-09-7 EINECS: 231-748-8 Index number: 016-015-00-0	thionyl dichloride ----- ☠ Acute Tox. 3, H331 ☠ Skin Corr. 1A, H314 ☠ Acute Tox. 4, H302	25-40%
CAS: 14024-11-4 EINECS: 237-850-9	lithium tetrachloroaluminate ----- ☠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	<10%
CAS: 7440-44-0 EINECS: 231-153-3	carbon substance with a Community workplace exposure limit	<10%
CAS: 7439-93-2 EINECS: 231-102-5 Index number: 003-001-00-4	lithium ----- ☠ Water-react. 1, H260 ☠ Skin Corr. 1B, H314	<10%

· **Additional information:**

For the wording of the listed Hazard Statements refer to section 16.

For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Information references exposures to battery contents, and not exposures to whole units. Exposures to whole units are unlikely to produce health hazards.

· **After inhalation:**

Unlikely route of exposure.

Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately remove any clothing soiled by the product.

Immediately rinse with water.

If skin irritation continues, consult a doctor.

Seek immediate medical help for blistering or open wounds.

· **After eye contact:**

Immediately remove contact lenses if possible.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

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

Strong caustic effect on skin and mucous membranes.

Gastric or intestinal disorders when ingested.

· **Hazards:**

Danger of gastric perforation.

Harmful if swallowed.

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4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:**

Fire-extinguishing powder

Sand

Water in flooding quantities.

For safety reasons unsuitable extinguishing agents: None.**5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information: Cool endangered receptacles with water in flooding quantities.**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

If containers are leaking, use respiratory protective device against the effects of fumes/dust/aerosol.

Use personal protective equipment as required.

Ensure adequate ventilation

6.2 Environmental precautions Avoid release to the environment.**6.3 Methods and material for containment and cleaning up**

Use inert material (clay, sawdust, kaolin) to absorb material and sweep up. Prevent spilled material from entering sewers, drains, bodies of water.

Pick up mechanically.

Send for recovery or disposal in suitable receptacles.

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.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Information is only applicable to product contents, and not to product as normally supplied. This information is applicable to damaged, leaking, or spilled product as contact with contents is possible under these conditions.

Keep away from open flames or temperatures exceeding manufacturer ratings. **DO NOT ATTEMPT TO OPEN SEALED CELLS OR BATTERIES – BATTERY CONTENTS MAY PRESENT SERIOUS SAFETY AND HEALTH HAZARDS. SHORT-CIRCUITING THE TERMINALS OF A DEVICE MAY RESULT IN DAMAGE TO DEVICE AND ANY NEARBY OBJECTS OR PERSONNEL.**

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- **Information about fire - and explosion protection:**
Prevent impact and friction.
Substance/product is ignitable under certain conditions.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a dry, well-ventilated place.
Do not use or store near open flame.
Avoid extreme temperatures; battery may rupture and release contents.
Do not store and transport with incompatible materials.
Store individual batteries or cells only in approved packaging in order to avoid inadvertent short circuits, as this may result in damage to device, nearby objects, personnel, or all of the above.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from water.
Do not store together with acids.
- **Further information about storage conditions:**
Store in dry conditions.
Protect from humidity and water.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

7719-09-7 thionyl dichloride

WEL (Great Britain) Short-term value: 4,9 mg/m³, 1 ppm

7440-44-0 carbon

WEL (Great Britain) Long-term value: 10* 4** mg/m³
*inhalable dust **respirable

AGW (Germany) Long-term value: 1,25* 10** mg/m³
2(II);*alveolengängig**einatembar; AGS, DFG

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes.
- Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

- Not required under normal conditions of use.
- For spills, respiratory protection may be advisable.

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- **Protection of hands:**
Not required under normal conditions of use.
Wear protective gloves to handle contents of damaged or leaking units.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Eye protection:** Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:**
Not required under normal conditions of use.
Protection may be required for spills.
- **Limitation and supervision of exposure into the environment:**
No further relevant information available.
- **Risk management measures:** See Section 7 for additional information.

SECTION 9: Physical and chemical properties

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

· **Appearance**

· **Form:** Solid metal container containing liquid and solid contents.

· **Colour:** According to product specification

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto/Self-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not represent an explosion hazard during normal use. Leaking contents may react with water to produce explosive or flammable gas.

· **Explosion limits**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapour pressure:** Not determined.

· **Density:** Not determined.

· **Relative density:** Not determined.

· **Vapour density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

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- **Viscosity**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

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 and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Hazardous reactions generally occur with contents of leaking batteries only.
Strong exothermic reaction with acids.
Toxic fumes may be released if heated above the decomposition point.
Contact with water releases flammable gases.
- **10.4 Conditions to avoid** Excessive heat.
- **10.5 Incompatible materials** No further relevant information available.
- **10.6 Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Contact with decomposition products does not normally occur; information is applicable only to damaged devices.
Flammable gases/vapours
Toxic metal oxide smoke
Chlorine
Chlorine compounds

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**

7719-09-7 thionyl dichloride		
Inhalative	LC50/4h	2,7 mg/l (rat)
- **Primary irritant effect**
- **Skin corrosion/irritation:** Strong caustic effect in case of contact with electrolyte only.
- **Serious eye damage/irritation:** Strong caustic effect in case of contact with electrolyte only.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

7440-02-0	nickel	1
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- **Probable routes of exposure:** None
- **Acute effects (acute toxicity, irritation and corrosivity):** From product as supplied: None.
- **Repeated dose toxicity:** From product as supplied: None.

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- **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** The product contains materials that are harmful to the environment.
- **12.2 Persistence and degradability** Not easily biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Avoid release to the environment.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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.
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN3091
- **14.2 UN proper shipping name**
- **DOT, IATA** Lithium metal batteries contained in equipment
- **ADR, IMDG** LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT

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· **14.3 Transport hazard class(es)**

· DOT, IMDG, IATA



· **Class** 9 Miscellaneous dangerous substances and articles.
· **Label** 9

· **ADR**



· **Class** 9 (M4) Miscellaneous dangerous substances and articles.
· **Label** 9

· **14.4 Packing group** This UN-number is not assigned a packing group.

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Danger code (Kemler):** -
· **EMS Number:** F-A,S-I

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

For small battery shipping exceptions, see the following:
ADR - Special Provision 188
DOT - 49CFR173.185(c)
IATA - PACKING INSTRUCTION 970, Section II
IMDG - Special Provision 188

SECTION 15: Regulatory information

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

· **Carcinogenic Categories**

· **IARC (International Agency for Research on Cancer)**

7440-02-0	nickel	1
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· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients are listed.

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Other regulations, limitations and prohibitive regulations**Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

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

Relevant phrases

H260 In contact with water releases flammable gases which may ignite spontaneously.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue

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