1. Product and Company Identification

1.1. Product identifier

Lithium-Thionylchloride-Battery (LiSoCl2)
P/N: 19218110
E.V.E. EF651625T LTC-7PN Lithium 3,6V 750mAh

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

Lithium-Thionylchloride-Battery

1.3. Details of the supplier of the safety data sheet:

Supplier:

Die Batterieprofis GmbH
Adam-Ries-Straße 6 D-09117 Chemnitz

Fon: +49 (0) 371 90963 0
Fax: +49 (0) 371 90963 29
Email: info@batterieprofis.de

Informing department:

ASS Magerl GmbH
Otto-Schmerbach-Str. 17 D-09117 Chemnitz

Fon: 0049 / 371 - 774 10 60
Email: mail@ass-magerl.de

1.4 EMERGENCY TELEPHONE NUMBER:

Swiss Toxicological Information Center- 24 h Service Tel.: 0041 / 44 251 51 51 (international)

2. Hazards identification

2.1. Classification of the substance or mixture:

In accordance with article 3 (3) of REACH, this / these item(s) are articles.
An article is not subject to the mandatory marking regulations applicable to dangerous substances.
The product is not classified according to the Globally Harmonized System (GHS).

2.2. Label elements

GHS label elements	Void
Hazard pictograms	Void
Signal word	Void
Hazard statements	Void

2.3. Other hazards

For the battery chemical materials are stored in a hermetically sealed metal case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use there is no physical danger of ignition or explosion and chemical danger of hazardous materials leakage.
It may cause heat generation or electrolite leakage if battery terminals contact with other metals. Elektrolyte is flammable. In case of electrolyte leakage move the battery from fire immediately.

However if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery case will be breaked at the extreme, hazardous materials may be released.

Moreover, if heated strongly by a surrounding fire, acrid gas may be emitted.

· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

3. Composition/ Information on Ingredient

3.1 . Substances

Chemical characterization: Mixtures

Dangerous components:		
CAS: 7439-93-2 EINECS: 231-102-5	Lithium Water-react. 1, Skin Corr. 1B H260 H314	3.5 ~ 5.0% Weight
CAS: 1333-86-4 EINECS: 215-609-9	Carbon	3.0 ~ 6.0 % Weight
CAS: 7719-09-7 EINECS: 231-748-8	Thionyl Chloride Acute Tox. 4, Acute Tox. 3, Skin Corr. 1B, STOT SE 3 H302 H331 H314 H335	40.0 ~ 45.0 % Weight
CAS: 7446-70-0 EINECS: 231-208-1	Aluminium Chloride Skin Corr. 1B H314 H318	1 ~ 5 % Weight.
CAS: 9002-84-0	Tetrafluoroethylene	N/A

CAS: 7447-41-8	Lithium Chloride Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2 H302 H315 H319	N/A
CAS: N/A	Stainless Steel	N/A
CAS: N/A	Glass	N/A
CAS: 7440-02-0 EINECS: 231-111-4	Nickel Sensitisation, respiratory (1, 1A, 1B) Sensitisation, skin (1, 1A, 1B) Carcinogenicity (2) Specific target organ toxicity, single axposure (1) (Kidney) Specific target organ toxicity, repeated exposure 1) (respiratory system) Hazardous to the aquatic environment, long-term hazard (4) H334 H317 H351 H370 H372 H413	N/A

4. First-aid measures

4.1 Description of first aid measures

· General information
This product contains an organic electrolyte. If the electrolyte is leaking out of the battery pack, the following measures have to be taken.

· After inhalation
Take affected persons into the open air and position comfortably Supply fresh air or oxygen; call for doctor. In case of unconsciousness bring patient into stable side position for transport.

· After skin contact
Instantly wash with water and soap and rinse thoroughly. If skin irritation persist, call a physician.

· After eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

· After swallowing
Do not induce vomiting, Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire-fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

CO2, extinguishing powder or water jet. Fight larger fires with water jet and foam.

Unsuitable extinguishing media

Water with full jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Formation of toxic gases is possible during heating or in case of fire

5.3 Advice for fire-fighters

Protective equipment:

In the event of fire, wear self-contained breathing apparatus. Wear full protective suit.
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away. Keep away from ignition sources.
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Keep people at a distance and stay on the windward side.

6.2 Environmental precautions

Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up

Absorb liquid components with liquid-binding material. Collect mechanically.

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 information on disposal.

7. Handling and Storage

7.1. Precautions for safe handling

Do not soak in water or seawater. Do not expose to strong oxidizers.
Do not give a strong mechanical shock or fling. Never disassemble, modify or deform.
Do not connect the positive terminal to the negative terminal with electrically conductive material. Use only the chargers / electric tools specified to charge or discharge the battery.
No special precautions necessary if used correctly.

· Information about protection against explosions and fires:

Do not throw into fire or expose to high temperatures (>85 °C).
Do not connect the positive terminal to the negative terminal with electrically conductive material.

7.2. Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and containers:

Avoid direct sunlight, high temperature, high humidity.
Store in a cool place (temperature: -20 °C ~ 35 °C, humidity: 45 - 85%)

Information about storage in one common storage facility:

Do not store together with oxidizing and acidic materials. Store away from water.
Do not store together with electrically conductive materials.

Further information about storage conditions:

The battery should be stored at 30 to 50% of the charging capacity. Avoid storing in places where it is exposed to static electricity.
Protect from heat and direct sunlight.

7.3. Specific end uses

As per VCI (1991) storage classification concept 11

8. Exposure Controls and Personal Protection

8.1. Control parameters

Additional information about design of technical systems:

No further data; see item 7.

Components with limit values that require monitoring at the workplace:

No technical measures are necessary during normal use. In case of leakage of substances contained within the cell, the information below may be useful.

Additional information:

The lists that were valid during the compilation were used as basis.

8.2. Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to general rules for handling chemicals.

· **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

· **Protection of hands:**

Protective gloves
Only use chemical-protective gloves with CE-labelling of category III. EN 374
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR
Recommended thickness of the material: 0,12 mm

· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed safety glasses

· **Body protection:**

Protective work clothing

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

· **General Information**	
· **Appearance:**	
Form:	plastic case
Colour:	different
· **Odour:**	Odourless
· **Odour threshold:**	Not determined
· **pH-value:**	Not applicable
· **Change in condition**	
Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	Not applicable
· **Flash point:**	Not applicable
· **Inflammability (solid, gaseous)**	Not determined
· **Ignition temperature:**	Not determined
· **Decomposition temperature:**	Not determined
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Risk of explosion by shock, friction, fire or other sources of ignition.
· **Critical values for explosion:**	
Lower:	Not determined
Upper:	Not determined
· **Vapour pressure**:	Not applicable
· **Density**	Not determined
· **Relative density**	Not applicable
· **Vapour density**	Not applicable
· **Evaporation rate**	Not applicable
· **Solubility in / Miscibility with**	
Water:	Unsoluble
· **Partition coefficient (n-octanol/water):**	Not applicable

· **Viscosity:**

dynamic:	Not applicable
kinematic:	Not applicable

· **Solvent content:**

Organic solvents:	0,0 %

9.2. Other information:

No further relevant information available.

10. Stability and Reactivity

10.1. Reactivity

No further relevant information available.

10.2. Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.

10.3. Possibility of hazardous reactions

No dangerous reactions known

10.4. Conditions to avoid:

No further relevant information available.

10.5. Incompatible materials:

Conductive materials, water, seawater, strong oxidizers and strong acids

10.6. Hazardous decomposition products:

Acrid or harmful gas is emitted during fire.

11. Toxicological Information

11.1. Information on toxicological effects

Primary irritant effect:

On the skin:
This product contains an organic electrolyte. If the electrolyte is leaking out of the battery pack, the following effects are known when getting into contact:
Irritant to skin and mucous membranes

On the eye:
Irritant effect

Sensitization:
No sensitizing effect known.

Additional toxicological information:
The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12. Ecological Information

12.1 Toxicity

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

12.6 Other adverse effects:

General notes:
Do not allow battery packs to penetrate the soil.
The battery cell may corrode and electrolyte may leak.

13. Disposal Considerations

13.1 Waste treatment methods

Recommendation

Dispose of this battery pack according to national regulations or return the used battery pack to

supplier.

European waste catalogue

16 06 05 other batteries and accumulators
20 01 34 batteries and accumulators other than those mentioned in 20 01 33

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.
Dispose of packaging according to regulations on the disposal of packagings.

14. Transport Information

Lithium metal cells and batteries are given UN numbers as shown in the below table.

For the international transport of lithium batteries, they must comply with these regulations: the International Maritime Dangerous Goods (IMDG) Code by International Maritime Organization (IMO), Dangerous Goods Regulations (DGR) by International Air Transport Association (IATA) and Technical Instructions for the Safe Transport of Dangerous Goods by Air (TI) by International Civil Aviation Organization (ICAO). These regulations are based on the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria.

Lithium batteries which meet the requirements of UN38.3 (UN Manual of Tests and Criteria, Part Ⅲ, subsection 38.3) could be transported by air and by sea as ordinary goods, otherwise should be transported according to Class 9, Packing Group Ⅱ hazardous goods.

For transported air, Lithium-metal Cells/Batteries must comply with Section IA or Section IB of PI968 accordingly.

Cells and batteries must be packed in inner packagings that completely enclose the cell or battery then placed in a strong outer packaging.

Each package must be capable of withstanding a 1.2 m drop test in any orientation without:
-damage to cells or batteries contained therein;
-shifting of the contents so as to allow battery to battery (or cell to cell) contact;
-release of contents.

The goods are primary lithium batteries. Each package must be marked indicating that it contains lithium batteries and that special procedures should be followed in the event that the package is damaged. Each shipment must be accompanied with a document indicating that the packages contain lithium batteries and that special procedures should be followed in the event a package is damaged.

UN No.	Proper Shipping Name / Description
3090	Lithium metal batteries
3091	Lithium metal batteries contained in equipment
3091	Lithium metal batteries contained with equipment

Related regulations: Following regulations shall be cited and considered.

Transportations	Related organization / Issue documents
Air transport (by airplane)	ICAO (International Civil Aviation Organization) / TI (Technical Instruction) IATA (International Air Transport Association) / DGR (Dangerous Goods Regulations)
Maritime transport (by ship)	IMO (International Maritime Organization) / IMDG Code (International Maritime Dangerous Goods Code)
Land transport (Intra-European)	RID (International Carriage of Dangerous Goods by Rail) , ADR (International Carriage of Dangerous Goods by Road)
USA / UN	USDOT (US Department of Transportation) / DOT 49 CFR (US law) UN: Recommendations on the transport of dangerous goods: Manual of Tests and Criteria the latest edition Amendment 1 [ST/SG/AC.10/11/Rev.5/Amend.1]: Part III, Subsection 38.3

15. Regulatory Information

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

National regulations

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

- Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

- Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE)

- Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC

Other regulations, limitations and prohibitive regulations
None

Substances of very high concern (SVHC) according to REACH, Article 57
None

Chemical safety assessment:
not required.

16. Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

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)

16.2 Relevant R-, H- and EUH-phrases (number and full text)

H260 In contact with water releases fl ammable gases which may ignite spontaneously

H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H319 Causes serious eye irritation

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 May cause respiratory irritation

H351 Suspected of causing cancer

H370 Causes damage to organs (kidney)

H372 Causes damage to organs through prolonged or repeated exposure

H413 May cause long lasting harmful effects to aquatic life