

Technical Notice

Safety data sheet lithium batteries

1. Identification

- 1.1 Product Name:** Tadiran High Energy Lithium Battery, or
Sonnenschein Lithium Inorganic Lithium Battery
- Voltage:** 3.6 Volts
- Chemistry System:** Lithium thionyl chloride
- Anode:** Lithium metal
- Cathode:** Liquid, thionyl chloride
- 1.2 Company:** Tadiran Batteries GmbH
Industriestr. 22
D-63654 Büdingen
- Telephone:** +49(0)6042/954-0, Fax-190
- 1.3 Emergency Telephone Number:** +49(0)6042/954-599

2. Composition/Information on Ingredients

Substance	CAS No.	Approximate percent of total weight	Hazard symbol	R-phrases
Lithium Metal	7439-93-2	2 - 6	F, C	14/15-34
Thionyl Chloride	7719-09-7	18 - 47	C	14-34-37
Aluminium Chloride	7446-70-0	2 - 5		
Lithium Chloride	7447-41-8	1 - 2		
Carbon	7440-44-0	2 - 5		
Steel, Nickel plated	----	35 - 73		
Glass	----	0 - 2		
PVC	9002-86-2	0 - 1		
PMMA	9011-14-7	0 - 1		
PTFE	9002-84-0	0 - 1		

- Hazard Symbols:** C Corrosive
F Highly flammable
- R-Phrases:** R 14 Reacts violently with water
R 14/15 Reacts violently with water liberating extremely flammable gases
R 34 Causes burns
R 37 Irritating to respiratory system

Important Note: The material in this section may only represent a hazard if the integrity of the battery is compromised, or if the battery is physically or electrically abused.

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- Lith-X (Class D extinguishing media) is effective on fires involving only a few lithium batteries.
- Do not use CO₂ or Halon type extinguishers.
- Dry chemical type extinguishers have limited extinguishing potential

B. Fire Fighting Procedures

- Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire.
- Full protective clothing is necessary.
- During water application caution is advised as burning pieces of lithium may be ejected from the fire.

6. Accidental release measures

When the battery housing is damaged, small amounts of electrolyte may leak. Seal battery air tight in a plastic bag, adding some chalk (CaCO₃) or lime (CaO) powder or Vermiculite. Electrolyte traces may be wiped off dryly using household paper. Rinse with water afterwards.

7. Handling and Storage

- Do not allow terminals to short-circuit.
- Storage preferably in a cool (below 21 °C), dry area that is subject to little temperature change.
- Do not place near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in reduced battery service life.

8. Exposure controls / personal protection

Not applicable

9. Physical and chemical properties

Not applicable

10. Stability and reactivity

May rupture violently when heated above 150 °C or when charged.

11. Toxicological information

Not applicable

Refer to information under item 2.

12. Ecological information

The batteries do not contain mercury, cadmium or other heavy metals.

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13. Disposal Considerations

- Dispose by incineration or burial at permitted waste treatment and/or disposal sites.
- Batteries do not contain hazardous materials according to EC directives 91/157/EEC and 93/86/EEC.
- For large quantities a disposal service is offered upon request.

14. Transport information

Class 9

UN 3090: LITHIUM BATTERIES

UN 3091: LITHIUM BATTERIES CONTAINED IN EQUIPMENT, or
LITHIUM BATTERIES PACKED WITH EQUIPMENT

Packing group: II

Special provisions and packing instructions:

ADR, RID: 188, 230, 310, 636, P903, P903a

IATA: A45, A88, A99, P903, P912, P918

IMDG-Code: 188, 230, 310, P903

EmS: F-A, S-I

Storage and segregation: Category A

For more information see www.tadiranbatteries.de > site map > Transport Regulations

15. Regulatory information

Not applicable

16. Other information

- Tadiran Lithium Batteries are registered by Underwriters Laboratories, Northbrook, U.S.A. under file MH 12827.
- Further information is given in
 - Tadiran Lithium Battery Product Data Catalogue
 - Tadiran Lithium Battery Technical Brochure.
- For lithium batteries in general, Safety standard IEC 60086-4 applies. It contains detailed recommendations for manufacturers of equipment and users.
- Visit our web site under www.tadiranbatteries.de.

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