Document Ref. No. DGTQ/BAT-T927

MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name: Li-Mn Battery CR927 3.0V 30mAh
Manufacturer: DONGGUAN TIANQIU ENTERPRISE CO., LTD
Address: TianQiu Industrial Park, Xinji Industrial Zone, Machong Town, Dongguan, GuangDong, P.R.China
Telephone: 0769-81210202

2. Composition/Information on Ingredients

Hazardous Components	Approx wt%	CAS #	EC #
Iron(Fe)	48.0	7439-89-6	231-096-4
Manganese Dioxide (MnO_2)	34.8	1313-13-9	215-202-6
Perchloric Acid, Lithium Salt ($LiClO_4$)	3.99	7791-03-9	232-237-2
Polypropylene ($(C_3H_6)_X$)	3.43	9003-07-0	618-352-4
Propylene Carbonate($C_4H_6O_3$)	3.0	108-32-7	203-572-1
Lithium(Li)	1.9	7439-93-2	231-102-5
Graphite(C)	1.7	7782-42-5	231-955-3
Polytetrafluoroethylene	1.7	9002-84-0	618-337-2
Ethylene Glycol Dimethyl Ether ($C_4H_{10}O_2$)	1.48	110-71-4	203-794-9

3. Hazards Identification

Routes of Entry: Not applicable under normal conditions
Health Hazards: In case of leakage, will be cause itchy and/or chemical burns when direct contact with electrolyte
Hazards to Environment: Not applicable
Fire and Explosion Hazards: Not applicable

4. First-aid Measures

Skin Contact: If exposed to a leaking cell, remove contaminated clothing. Wash exposed areas with plenty of water and soap. If irritation occurs, consult a physician.
Eyes Contact: If a cell is leakage and materials contact eyes, flush immediately with running water for at least 15 minutes. Consult an ophthalmologist at once.
Inhalation: If vapor from vented or leaked cells are inhalation, move to fresh air and get medical attention.
Ingestion: Get immediately medical attention, do not induce vomiting or give a liquid to unconscious person.

5. Fire Fighting Measures

Hazard Characteristic: Not available

Hazards Expose to Combustion Products: In case of fire, carbon dioxide, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.

Extinguishing Media: Class "D" fire extinguisher, lith-x (graphite base), copper powder or dry sand.

Special Fire Fighting Procedures: In case of fire in an adjacent area, use water, co_2 or dry chemical extinguishers if cells are packed in their original container since the fuel of the fire is basically paper products. for burning bulk quantities of unpacked cells use class "D" fire extinguisher. in this case, do not use water.

Fire fighters should wear self-contained breathing apparatus.

6. Accidental Release Measures

Precautions: Avoid direct contact with the leaking or ruptured cells. Avoid short circuit.

Methods for Clean Up: Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

7. Handling and Storage

Precaution: Handing and transfer the products carefully, make sure the packing always in good condition. Damaged packing may cause cells contact together, in this case cells may short circuit or improperly connected, it cause cells venting, leaking or exploding.

Storage: Store in a dry, cool and well-ventilated area.

8. Exposure Control/Personal Protection

Exposition/Technical Measures: Atmospheric vapor concentrations must be minimized by adequate ventilation.

Protection of Hands, Eyes, and Skin: No required under normal use conditions. When handling leaking cells, use gloves and wear safety glasses to protect hands, eyes and skin.

General Safety and Hygiene Measures: Use only as directed.

9. Physical and Chemical Properties

Physical State and Appearance: Flat and circular

Odor: Odorless	pH: N/A
Melting Point (℃): N/A	Specific Gravity (H_2O=1): N/A
Boiling Point (℃): N/A	Vapor Density (Air=1): N/A
Vapor Pressure (kPa): N/A	Heat of Combustion (kJ/mol): N/A
Critical Temperature (℃): N/A	Critical Pressure (MPa): N/A
Partition Coefficient: N/A	Flash Point (℃): N/A
Ignition Temperature (℃): N/A	Explosion Limit % (V/V): N/A

Solubility in Water: N/A Solubility in Other Solvents: N/A

10. Stability and Reactivity

Stability: Stable
Incompatibility: None
Condition to Avoid: Avoid shorting, mechanical & thermal abuse
Hazardous Polymerization: Will not occur
Hazardous Decomposition: None

11. Toxicological Information

Note: Since the materials in this cell are sealed in the can, the potential for exposure to the components of the cell is negligible, when the cell is used as directed. However technical or electrical abuse of the cell may result in the release of cell contents.
Toxicity to Animals: Not applicable
Chronic Effects on Human: Not applicable

12. Ecological Information

This product has not been tested for environmental effects.

13. Disposal Consideration

Dispose in accordance with Federal, States and local regulations

14. Transport Information

Shipping Name: Lithium Metal Cells
UN Number: UN3090 (UN3091 for lithium batteries in equipment)
All TianQiu lithium batteries when transported by ground are not subject to the requirements of the Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if they shipped in accordance with all of the applicable provisions of Special Provision 188.
All TianQiu lithium batteries are exempt from the other requirements of the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) dangerous goods regulations if they are transported in accordance with all of the requirements set out in Section IB of Packing Instruction 968, 969 and 970 under the current edition of the IATA Dangerous Goods Regulations 65th2024.
As of 1 January 2016 lithium metal batteries packed by themselves (not contained in or pa cked with equipment) are forbidden for transport as cargo on passenger aircraft).
All TianQiu lithium batteries are exempt from the other requirements of the International Maritime Organization IMO IMDG Code (Amend 41-2022) dangerous goods regulations if they are transported in accordance with all of the applicable requirements of Special Provisions 188.

For a lithium metal or lithium alloy cell, the lithium content or aggregate lithium content is not contain more than 1g.
For a lithium metal or lithium alloy battery, the lithium content or aggregate lithium content is not more than 2g.
Each cell or battery of TianQiu is of the type proven to meet the requirement of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
If you build any of our lithium cells into a battery pack, you must also assure that they are tested in accordance with the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3.
Effective December 29, 2004, the DOT requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement: "PRIMARY LITHIUM BATTERIES- FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT". The labeling requirement covers shipments via highway, rail, vessel or cargo-only aircraft and covers all shipments inside, into or out of the US. The label must be in contrasting color and the letters must be 12 mm (0.5 in) in height for packages weighing more than 30 Kg and 6 mm (0.25 in) in height for packages weighting less than 30 Kg.

15. Regulatory Information

Special requirement be according to the local regulators.

16. Other information

Do not heat or dispose of in fire. Do not recharge or disassemble the cell.

Notice to reader:

The information contained in this MSDS was obtained from current and reliable sources, however, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions or handling, storage and disposal of this product are beyond the control of TianQiu, TianQiu will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this MSDS shall be created or inferred by any statement in this MSDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product, which may not be covered by this MSDS. The user is responsible for full compliance.