

SHENZHEN BATTERY TECHNOLOGY CO.,LTD
MATERIAL SAFETY DATA SHEET
Lithium Cylindrical Rechargeable Battery

Model: ICR16340 3.7V 650mAh



Prepared by	Approved by
Date: 7. 10. 2017	Date: 11. 28. 2017

Material Safety Data Sheet

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Section 1-Chemical Product and Company Identification

Product Identification

SP Lithium-Ion Cylindrical Battery

Normal Voltage	:	3.7V
Normal Capacity	:	650mAh
Equivalent Lithium content	:	2.405Wh
Testing Period	:	7.10, 2017 To 11.28, 2017

Manufacturer

Shenzhen batterycom battery CO.,LTD

18#BLD,xinkang one road,kengzi town,pingshan district Shenzhen,China

Postcode : 518104

Telephone : +86-755- 88214652 Fax : +86-755-88214659

Email:tech@battery-com.com

Section 2-Composition/Information on Ingredients

Chemical Composition	Molecular Formula	Weight%	CAS No	OSHA(PEL)	ACGIH(TLV)
Lithium Cobalt Oxide	LiCoMnO ₂	25~30%	15365-14-7	N/A	N/A
Polyvinylidene fluoride	(CH ₂ CF ₂) _n	0.5~2%	24937-79-9	N/A	N/A
Graphite powder	C	15~20%	7782-42-5	N/A	N/A
Electrolyte	LiPF ₆ C ₃ H ₇ O ₃ C ₄ H ₈ O ₃ C ₂ H ₁₀ O ₃	10~15%	21324-40-3	N/A	N/A
Polyethylene	(C ₂ H ₄) _n	0.5~1%	9002-88-1	N/A	N/A
Copper foil	Cu	5~10%	7440-50-8	N/A	N/A
Nickel	Nickel	5~10%	7440-02-0	N/A	N/A
Iron	Fe	15~20%	7439-89-6	N/A	N/A
Aluminum foil	Al	5~10%	7429-90-5	N/A	N/A

Section 3-Hazards Identification

Preparation hazards and classification	Not dangerous with normal use. Do not dismantle, open or shred Li-ion Battery. Exposure to the ingredients contained within or their ingredients products could be harmful.
Appearance, Color, and Odor	Solid object with no odor, no color.
Primary Route(s) of Exposure	These chemicals are contained in a sealed stainless steel enclosure. Risk of exposure occurs only if the battery is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by Inhalation, Ingestion, Eye contact and Skin contact.
Potential Health Effects:	<p>ACUTE (short term): see Section 8 for exposure controls. In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns.</p> <p>Inhalation: Inhalation of materials from a sealed battery is not an expected route of exposure. Vapors or mists from a ruptured battery may cause respiratory irritation.</p> <p>Ingestion: Swallowing of materials from a sealed battery is not an expected route of exposure. Swallowing the contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.</p> <p>Skin: Contact between the battery and skin will not cause any harm. Skin contact with contents of an open battery can cause severe irritation or burns to the skin.</p> <p>Eye: Contact between the battery and the eye will not cause any harm. Eye contact with contents of an open battery can cause severe irritation or burns to the eye.</p> <p>CHRONIC (long term): see Section 11 for additional toxicological data.</p>
Medical Conditions Aggravated by Exposure	Not applicable
Reported as carcinogen	Not applicable

Section 4-First-aid Measures

Inhalation	If contents of an opened battery are inhaled, remove source of contamination or move victim to fresh air. Obtain medical advice.
Skin contact	If skin contact with contents of an open battery occurs, as quickly as possible remove contaminated clothing, shoes and leather goods. Immediately flush with lukewarm, gently flowing water for at least 30 minutes. If irritation or pain persists, seek medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Eye contact	If eye contact with contents of an open battery occurs, immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes while holding the eyelids open. Neutral saline solution may be used as soon as it is available. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
Ingestion	If ingestion of contents of an open battery occurs, never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240 ml (2-8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Quickly transport victim to an emergency care facility.

Section 5-Fire Fighting Measures

Flammable Properties	In the event that this battery has been ruptured, the electrolyte solution contain within the battery would be flammable. Like any sealed container, battery may rupture when exposed to excessive heat; this could result in the release of flammable or corrosive materials.
Suitable extinguishing Media	Use extinguishing media suitable for the materials that are burning.
Unsuitable extinguishing Media	Not available.
Explosion Data	Sensitivity to Mechanical Impact: This may result in rupture in extreme cases Sensitivity to Static Discharge: Not Applicable
Specific Hazards arising from the chemical	Fires involving Li-ion Battery can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended to extinguish the fire.
Protective Equipment and precautions for firefighters	As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Fight fire from a protected location or a safe distance. Use NIOSH/MSHA approved full-face self-contained breathing apparatus(SCBA) with full protective gear.

NFPA

Health: 0 Flammability: 0 Instability: 0

Section 6-Accidental Release Measures

Personal Precautions, protective equipment, and emergency procedures	Restrict access to area until completion of clean-up. Do not touch the spilled material. Wear adequate personal protective equipment as indicated in Section 8.
Environmental precautions	Prevent material from contaminating soil and from entering sewers or waterways.
Methods and materials for Containment	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
Methods and materials for cleaning up	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in wash water for proper disposal.

Section 7-Handling and Storage

Handling	Don't handling Li-ion Battery with metalwork. Do not open, disassemble, crush or burn battery. Ensure good ventilation/ exhaustion at the workplace. Prevent formation of dust. Information about protection against explosions and fires: Keep ignition sources away- Do not smoke.
Storage	Li-ion Battery is subject to damage for such a long time after they are made. It is recommended to recharge the Li-ion Battery periodically. For long-term storage, the capacity recovery rate in the delivery state (50% capacity or fully charged) after storage is assumed to be 80% or more. The voltage for a long time storage shall be 3.7V-4.2V range.
	Do not storage Li-ion Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children. Do not expose Li-ion Battery to heat or fire. Avoid storage in direct sunlight. Do not store together with oxidizing and acidic materials.

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Section 8-Exposure Controls/Personal Protection

Engineering Controls	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flames. Store in a cool, dry place.
Personal Protective Equipment	Respiratory Protection: Not necessary under normal conditions. Skin and body Protection: Not necessary under normal conditions. Wear neoprene or nitrile rubber gloves if handling an open or leaking battery. Hand protection: Wear neoprene or natural rubber material gloves if handling an open or leaking battery. Eye Protection: Not necessary under normal conditions. Wear safety glasses if handling an open or leaking battery.
Other Protective Equipment	Have a safety shower and eye wash fountain readily available in the immediate work area.
Hygiene Measures	Do not eat, drink, or smoke in work area. Maintain good housekeeping.

Section 9-Physical and Chemical Properties

Physical State	Form: Solid
	Color: BLUE
	Odour: Monotony
Change in condition:	
pH, with indication of the concentration	Not applicable
Melting point/freezing point	Not available.
Boiling Point, initial boiling point and Boiling range:	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor Pressure:	Not applicable
Vapor Density: (Air = 1)	Not applicable
Density/relative density	Not available.
Solubility in Water:	Insoluble
Partition coefficient	Not available.

Auto-ignition temperature	130℃
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Viscosity	Not applicable

Section 10- Stability and Reactivity

Stability	The product is stable under normal conditions.
Conditions to Avoid (e.g. static discharge, shock or vibration)	Do not subject Li-ion Battery to mechanical shock. Vibration encountered during transportation does not cause leakage, fire or explosion. Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.
Incompatible Materials	Not Available
Hazardous Decomposition Products	This material may release toxic fumes if burned or exposed to fire
Polymerization and Polymerization Conditions	Not Available

Section 11-Toxicological Information

Information	Risk of irritation occurs only if the battery is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.
Sensitization	Not Available
Neurological Effects	Not Available
Teratogenicity	Not Available
Reproductive Toxicity	Not Available
Mutagenicity (Genetic Effects)	Not Available
Toxicologically Synergistic Materials	Not Available

Section 12-Ecological Information

General note:	Water hazard class 1(Self-assessment): slightly hazardous for water.
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OSHA hazard communication standard (29 CFR 1910.1200)

 Hazardous

V Non-hazardous

Section 16-Other Information

This information is not effective to all the batteries manufactured by BATTERYCOM This information comes from ^(PS-9.1) [w] no warranty is made to the completeness and accuracy of information contained.

grasp the correct use method and be responsible for the use of batteries.