



中国认可
国际互认
检验
INSPECTION
CNAS IB0551



ReportNo.:BRKJ20170928MSDS02

MATERIAL SAFETY DATA SHEET

Product Name: Li-ion Battery Pack

Type/ Model:	PR140Li 50.4V 2.6Ah 131Wh
	PR280Li 50.4V 5.2Ah 262Wh
	PR420Li 50.4V 7.8Ah 393Wh

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广州邦禾检测技术有限公司

Guangzhou MCM Certification and Testing Co., Ltd.



Material Safety Data Sheet

SECTION 1 - CHEMICAL AND COMPANY IDENTIFICATION

Name of Sample: Li-ion Battery Pack	Type: PR140Li 50.4V 2.6Ah 131Wh PR280Li 50.4V 5.2Ah 262Wh PR420Li 50.4V 7.8Ah 393Wh
Company: BMZ Company Limited	Address: No.2 Building, No.2 JingLong Street Bao Long Industry Zone, LongGang ShenZhen Guangdong China 518116
Zip code: 518116	Fax: 0755-89775900
E-mail: Zhilin.cai@bmz-group.com	Emergency Telephone: 0755-89773981

SECTION 2 – HAZARDS IDENTIFICATION

Hazards Identification:

The battery has passed the test items of UN Model Regulations, Manual of Test and Criteria Section UN38.3; Report No.: 1117080044, 1117080045, 1117080046; The sealed Battery is not hazardous in normal use.

Emergency Overview:

Caution: Avoid contact and inhalation the electrolyte contained inside the battery.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENT

Ingredient	Molecular formula	CAS No.	Weight
Lithium Cobalt Dioxide	LiCoO ₂	12190-79-3	24-45%
Aluminium foil	Al	7429-90-5	10-30%
Graphite	C	1333-86-4	5-25%
Copper foil	Cu	7440-50-8	5-25%
Lithium hexafluorophosphate	LiPF ₆	21324-40-3	5-25%
Ethylene carbonate	C ₃ H ₄ O ₃	96-49-1	
Dimethyl carbonate	C ₃ H ₆ O ₃	616-38-6	
Ethyl methyl carbonate	C ₄ H ₈ O ₃	623-53-0	

SECTION 4 – FIRST AID MEASURES

Eye Exposure:

In case of contact with eyes, flush with copious of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Skin Exposure:
If the internal battery materials of an opened battery cell come into contact with skin, immediately flush with plenty of water.
Inhalation Exposure:
If inhaled the internals of battery vomiting. Seeking Immediate medical attention.
Ingestion Exposure:
If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 5 – FIRE FIGHTING MEASURES

Danger characteristic:
Exposure to excessive heat can cause venting of the liquid electrolyte. Battery may burst and release hazardous decomposition products when exposed to a fire situation.
Hazardous combustion products:
Corrosive gas may be emitted during fire.
Fire-Fighting method& media
The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire in the upwind direction. Remove the container to the open space as soon as possible .Spray water on the containers in the fireplace to keep them cool until finish extinguishment Media: plenty of water, dry chemical powder or carbon dioxide .

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Emergency treatment:
If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate waste.

SECTION 7 – HANDLING AND STORAGE

Handling:
<ol style="list-style-type: none"> 1. Do not allow battery terminates to contact each other, or contact with other metals. 2. Do not put the cell or battery into a fire or heat it. Do not solder the cell directly. Do not use or leave the cell or battery in a place near fire or heaters. 3. Do not expose the battery to excessive physical shock or vibration. 4 Do not immerse, throw, and wet a battery in water. 5 Short-circuiting should be avoided. Short circuit will reduces the life of the battery and can lead to ignition of surrounding materials. Physical contact with to short- circuited battery can cause skin burn. 6. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. 7. Place the cell beyond the child packing and container. 8. Do not connect the battery directly to an electric outlet or cigarette socket in a car. 9. Be sure to use the specified charger for battery, and follow the charging instructions correctly. 10. Do not mix old and new batteries together, neither with Ni-Cd, dry batteries or another manufacturer batteries or product.
Storage:
1. Batteries should be separated from other materials and stored in a noncombustible, well ventilated,

sprinkler-protected structure with sufficient clearance between walls and battery stacks.

2. Keep the sample in the cool, dry and well-ventilated place(temperature:-20~30degree C humidity:45~85%). Do not exposure to direct sunlight for long periods.Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid.

3. charge the battery every 6 months to the amount specified by the manufacture, even if the battery is not used.

4. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Control:

Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place.

Respiratory Protection:

Not necessary under conditions of normal use. Wear self-contained breathing filtermask if the density exceed in the air. Wear breathing apparatus under the condition of emergency rescue or evacuation.

Eyes Protection:

Not necessary under conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.

Skin and Body Protection:

Not necessary under conditions of normal use. Wear fireproofing, gas defense clothes in case of handling a leaking or ruptured battery.

Hands Protection:

Not necessary under conditions of normal use. Wear chemical resistant rubber .

Other Protections:

No smoking, dining and drinking water in the workplace. Keep good habit of hygiene.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Black

Physical state:

Solid

Form:

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Odor:

Odorless

Solubility:

Insoluble in water.

SECTION 10 – STABILITY AND REACTIVITY

Stability:

Stable under normal temperature and pressure.

Distribution of Ban:

Strong oxidizer, strong acid and corrosives

Conditions to Avoid:

Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature above 100 °C ,

direct sunlight and high humidity, immerse in water or overcharge.

Hazardous Polymerization:

Will not occur.

Hazardous Decomposition Products:

Metal oxides, CO, CO₂

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity:

N/A

Sub-acute and Chronic Toxicity:

N/A

Irritation Data:

The internal battery materials may cause irritation to eyes and skin.

Sensitization:

The liquid in the battery may cause sensitization to some person.

Mutagenicity:

No information is available.

Carcinogenicity:

Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

Others:

Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

SECTION 12 – ECOLOGICAL INFORMATION

Eco-toxicity:

No data available.

Biodegradable:

No data available.

Mobility in soil:

No data available.

Bioconcentration or biological accumulation:

No data available.

Other harmful effects:

Don't abandon the battery into environment, may cause water or soil pollution.

SECTION 13 - DISPOSAL CONSIDERATIONS

Appropriate Method of Substance:

The battery should be completely discharged prior to disposal in order to prevent short circuit. The battery contains recyclable materials. It is suggested recycle. Refer to National or Local regulations before handling. Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in National or Local regulations of hazardous waste treatment and hazardous waste transportation.

SECTION 14 – TRANSPORT INFORMATION

Note:	Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "PI965-967 section II of IATA-DGR" or "special provision 188 of IMO-IMDG Code"
IATA:	Proper Shipping Name: Lithium batteries
	UN Number: UN 3480
	Hazard Class: 9
	Packaging requirement: According to IATA DGR 58 th Edition (Effective 1 January-31December 2017), PACKING INSTRUCTION 965 of section IA for transportation.
IMO:	Proper Shipping Name: Lithium batteries
	UN Number: UN 3480
	Hazard Class: 9
	Packing Group: II
	The goods is restricted to IMO IMDG Code (Amend 38-2016) according to special provision 903.

SECTION 15 – REGULATORY INFORMATION

«Dangerous Goods Regulation» (DGR)
 «Recommendations on the Transport of Dangerous Goods Model Regulations»
 «International Maritime Dangerous Goods» (IMDG)
 «Occupational Safety and Health Act» (OSHA)
 «Toxic Substances Control Act» (TSCA)
 «Code of Federal Regulations» (CFR)
 «Technical Instructions for the Safe Transport of Dangerous Goods»
 «California Proposition 65»
 «Superfund Amendments and Reauthorization Act Title III (302/311/312/313)» (SARA)
 In accordance with all Federal, State and local laws.

SECTION 16 – ADDITIONAL INFORMATION

According standard:

GB/T 16483-2008 Safety data sheet for chemical products Content and order of sections
 ISO 11014:2009(E) Safety data sheet for chemical products – Content and order of sections

Date:

2017-09-29

Department:

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Other Information:

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