

SECTION 1. CHEMICAL PRODUCT AND COMPANY NAME**Lithium-Ion Rechargeable Battery Pack
BL1016****Safety Data Sheet**Complies with the OSHA Hazard
Communication Standard :
29 CFR 1910 1200

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	Date Revised:	03/12/2019

EMERGENCY CONTACT INFORMATION**Telephone Number for Information:** MAKITA: 1-510-657-9881**Emergency Response**

For Chemical Emergency
Spills, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada 1-800-424-9300

SECTION 2. HAZARD IDENTIFICATION:

The product is a Lithium ion battery and is therefore classified as an article and is not hazardous when used according to the recommendations of the manufacturer. The hazard is associated with the contents of the cell or battery. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive.

SECTION 3. COMPOSITION, INFORMATION OR INGREDIENTS:

* Substance or preparation: Preparation

* Information about the chemical nature of product: *1

Hazardous Ingredients	%	CAS Number
Aluminum Foil	2-10	7429-90-5
Metal Oxide (proprietary)	20-50	182442-95-1
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	
Lithium hexafluorophosphate		21324-40-3
Ethylene carbonate		96-49-1
Propylene carbonate		108-32-7
Dimethyl carbonate		616-38-6
Stainless steel	5-15	65997-19-5
Nickel	<5	7440-02-0

* Equivalent Lithium content: 0.44g, Electric Power Capacity: 5.47 Wh

SECTION 4. FIRST AID MEASURE:

Inhalation

Not a health hazard.

Eye contact

Not a health hazard.

Skin contact

Not a health hazard.

Ingestion

If swallowed, obtain medical attention immediately.

IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED :

Inhalation

Leave area immediately and seek medical attention.

Eye contact

Rinse eyes with water for 15 minutes and seek medical attention.

Skin contact

Wash area thoroughly with soap and water and seek medical attention.

Ingestion

Drink milk/water and induce vomiting; seek medical attention.

SECTION 5. FIRE FIGHTING MEASURES:

General Hazard

Cell is not flammable. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

Extinguishing Media

Use extinguishing media suitable for the materials that are burning.

Special Firefighting Instructions

If possible, remove cell(s) from firefighting area. If heated above 160°C, cell(s) may explode/vent.

Firefighting Equipment

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES:

On Land

Place material into suitable containers and call local fire/police department.

In Water

If possible, remove from water and call local fire/police department.

SECTION 7. HANDLING AND STORAGE:

Handling

No special protective clothing required for handling individual cells.

Storage

Store in a cool, dry place.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION:**Engineering controls**

Keep away from heat and open flame. Store in a cool dry place.

Personal Protection**Respirator**

Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection

Not required beyond safety practices of employer.

Gloves

Not required for handling of cells.

Foot protection

Steel toed shoes recommended for large container handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES:

State	Solid
Odor	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

SECTION 10. STABILITY AND REACTIVITY:**Reactivity**

None

Incompatibilities

None during normal operation. Avoid exposure to heat, open flame, and corrosives.

Hazardous Decomposition Products

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

Conditions To Avoid

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

SECTION 11. TOXICOLOGICAL INFORMATION:

Sensitization	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO
If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.			

SECTION 12. ECOLOGICAL INFORMATION:

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

SECTION 13. DISPOSAL CONSIDERATIONS:

California regulated debris

RCRA Waste Code: Non-regulated

Dispose of according to all federal, state, and local regulations.

SECTION 14. TRANSPORT INFORMATION:

- The cells in these batteries have been tested and meet the requirements for the UN Manual of Tests and Criteria, Part III, subsection 38.3
- When a number of batteries are transported by ship, vehicle and railroad avoid high temperature and dew condensation.
- Avoid transportation which may cause damage of package.
- Lithium-ion batteries are not subject to dangerous goods regulation for the purpose of transportation by the International Maritime Dangerous Goods regulations (IMDG). For Lithium-ion batteries, the Watt-hour rating is no more than 20Wh /cell and 100Wh/ battery pack can be treated as "non-dangerous goods" by the United Nations Recommendations on the Transport of Dangerous Goods/Special Provision 188, provided that the products are prevented from being short-circuited with each other and are packaged in an appropriate condition which satisfies Packing Group II performance level.
- IATA (International Air Transport Association): Dangerous Goods Regulation Packing Instruction 965 (Lithium ion or lithium polymer cells and batteries without electronic equipment) went into effect April 1, 2016: Lithium ion cells and batteries must be offered for transport at a state of charge not exceeding 30 per cent of their rated capacity. UN 3480, PI 965, Section IA and IB and II will be restricted to carriage on cargo aircraft. All packages must bear the Cargo Aircraft Only label in addition to the other marks and labels required by the Regulations.
- US Hazardous Materials Regulations 49 CFR (Code of Federal Regulations) Sections 173-185 Lithium batteries and cells.

Section II requirements apply to lithium-ion cells with a Watt-hour rating not exceeding 20 Wh and lithium-ion batteries with a Watt-hour rating not exceeding 100 Wh packed in quantities that within the allowance permitted in Section II, Table 965-11.

TABLE 965-II

Contents	Lithium-ion cells and/or batteries with a Watt-hour rating of 2.7 Wh or less	Lithium-ion cells with a Watt-hour rating of more than 2.7Wh but not more than 20Wh	Lithium-ion batteries with a Watt-hour rating of more than 2.7Wh but not more than 100Wh
Maximum number of cells / batteries per package	No limit	8 cells	2 Batteries
Maximum net quantity per package	2.5 kg	N/A	N/A

Lithium-ion cells and batteries meeting the requirements in this section are not subject to other additional requirements of these Regulations except for:

- Each cell and battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3;
 - cells and batteries must be manufactured under a quality management program;
 - for batteries, The Watt-hour rating must be marked on the outside of the battery case;
 - Each package must be capable of withstanding a 1.2m 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.
- Each package must be marked with the lithium battery mark and the cargo aircraft only Label.
- A shipper is not permitted to offer for transport more than one package prepared according to Section II in any single consignment

CONTINUED: SECTION 14. TRANSPORT INFORMATION:

Section IB requirements apply to lithium-ion cells with a Watt-hour rating not exceeding 20 Wh and lithium-ion batteries with a Watt-hour rating not exceeding 100 Wh packed in quantities that exceed the allowance permitted in Section II, Table 965-II.

Quantities of lithium-ion cells or batteries that exceed the allowance permitted in Section II, Table 965-II must be assigned to Class 9 and are subject to all of the applicable provisions of Regulation.

Where classified as lithium batteries packed with equipment (UN3481), IATA Dangerous Goods Regulations packing instruction 966 is applied.

Where classified as lithium batteries installed in equipment (UN3481), IATA Dangerous Goods Regulations packing instruction 967 is applied.

SECTION 15. REGULATORY INFORMATION:

This product is not hazardous under the criteria of the Federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard. (29 CFR 1910.1200)

IATA Dangerous Goods Regulations 57th Edition Effective 1 January 2016.

Hazardous

Non-hazardous

SECTION 16 OTHER INFORMATION:

Hazardous Materials Information Label (HMIS)

Health: 0

Flammability: 0

Physical Hazard: 0

NFPA Hazard Ratings

Health: 0

Flammability: 0

Reactivity: 0

Unique Hazard: