

MATERIAL SAFETY DATA SHEET

Manufacturer Information :

Joules Miles Co. , Ltd.

5F, No. 1-21, Kuo-Chien Rd., Chien-Chen Dist., Kaohsiung, Taiwan.

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Version: D

Product Information

Product Name : Rechargeable Lithium-Ion Polymer Battery Pack

Model NO : BR002 \ PA-BT-006

Rating : 7.2V,3000mAh,21.6Wh

Hazards Identification

- Health Hazard Effect :
The battery pack interior airtight chemical substance, if the artificial/machinery/electron improper use destroys, causes the chemical substance outside or the gas leaks causes the skin/eye damage and explodes.
- Environment Influence :
Since a battery cell remains in the environment, do not throw out it into the environment.
- Physics/Chemical damage : -----
- Special damage : -----
- Cardinal Condition :
Disgusting, vomit, the stupor, the skin fever scalds, the position feeling barrier.
- Article damage classification : -----

Composition / Information on Ingredients

English Name : Rechargeable Lithium-Ion Polymer Battery Pack

Synonymous Name :

Hazardous Ingredients :

Chemical Name	CAS NO.	PEL	TLV
Lithium Cobalt Dioxide		None Established	None Established
Aluminum Foil	7429-90-5	None Established	None Established
Graphite(C)	7782-42-5	None Established	None Established
Organic Solvent		None Established	None Established
Lithium Salt		None Established	None Established
Polyvynilidene difluoride (PVdF)	24937-79-9	None Established	None Established
Nickel	7440-02-0	None Established	None Established

Lithium equivalent content	1.8[g] for battery pack
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First Aid Measures

Under normal conditions of use, the battery is hermetically sealed.

1. Ingestion : Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.
2. Inhalation : Contents of an open battery can cause respiratory irritation. Inhalation of vapors may cause irritation of the upper respiratory tract and lungs. Provide fresh air and seek medical attention.
3. Skin Contact : Contents of an open battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.
4. Eye Contact : Contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Fire Fighting Measures

- If fire or explosion occurs when battery are on charge , should shut off power to charger. In case of fire where lithium ion battery is present, flood the area with water. If any battery is burning, water may not extinguish them, but will cool the adjacent battery and control the spread of fire. CO₂ and dry chemical extinguishers are preferred for small fires.
- extinguishers :
water/CO₂/dry chemical

Accidental Release Measures

- **personal protection :**
 1. Respiratory Protection : Not necessary under normal conditions.
 2. Eye Protection : Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.
 3. Gloves : Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery
- **Ventilation Requirements :** Not necessary under normal conditions
- Should depend on environmental protection stipulation recycle mode processing.

Handling and Storage

- **Handling :**

Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided; however, accidental short-circuiting for a few seconds will not seriously affect the battery.

Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled battery in bulk containers, coins, metal jewelry, metal covered tables, or metal belts used for assembly of battery in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery.

- **Storage :**

Store within the recommended limit of -10°C to 45°C (14°F to 113°F), well-ventilated area. Do not expose to high temperature (60°C/140°F). Since short circuit can cause burn hazard or safety vent to open, do not store with metal jewelry, metal covered tables, or metal belt.

Exposure controls

- **ENGINEERING CONTROLS : -----**

Control parameter			
(TWA)	(STEL)	(CEILING)	(BEI)
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Physical and Chemical Properties

Physical state	solid	Solubility in water	/
Cell Color	Metallic color	Explosion limit	/
Odor	Odorless	Auto flammability	/
Flashpoint	/	Melting Point	/
Boiling Point	/	Freezing Point	/

Stability and Reactivity

External short-circuit, deformation by crush, high temperature (over 100°C) exposure of a battery cause generation of heat and ignition.

Toxicological Information

Under normal conditions of use, the battery is toxicological sealed. So void to open and damage battery directly.

Ecological Information

If the battery is scrapped, it should be selected and disposed by professional company.

Disposal Considerations

Do not dispose of battery into environment or sewerage. It should be recycled and disposed basing on your local legislation and regulations.

Transportation Information

The rechargeable lithium Ion battery pack meet all requirements under UN Manual of Tests and Criteria Part III, subsection 38.3. The lithium battery pack comply with IATA DGR 59th edition lithium ion battery pack UN3480 and comply with Section IB of Packing Instruction of 965 and regulated for Transport under Special provision 188 of the International Maritime Dangerous Goods Code(IMDG). Lithium battery label must be placed on the package when the statement is required. The state of charge (SoC) is not exceeding 30% of design capacity.

Regulatory Information

(ACGIH)
(OSHA)
European Union (UN)
(ISO)

Other Information

- Reference: SONY LI-ION POLYMER CELL BATTERY MSDS
- Made by : Joules Miles Co. , Ltd.
5F, No. 1-21, Kuo-Chien Rd., Chien-Chen Dist., Kaohsiung, Taiwan.
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Note: The reference data provide from supplier.