

Safety data sheet for product

1. PRODUCT AND COMPANY IDENTIFICATION

- Product name: Rechargeable Lithium ion battery Pack
- Product code: BTR-11A
- Rating: 14.4V, 3190mAh, 45.9Wh
- Company name: Fujikura Ltd.
- Address: 1-5-1 Kiba, Koto-ku, Tokyo 135-8512 Japan
- Telephone number: +81-3-5606-1164
- Fax number: +81-3-5606-1534
- Emergency telephone number: +81-3-5606-1164

2. COMPOSITION / INFORMATION ON INGREDIENTS

- English Name: Rechargeable Lithium ion battery pack
- Hazardous ingredients:

Common chemical name / General name	CAS No.	Concentration/ Concentration range	Classification and hazard labeling
Lithium Cobaltic (LiCoO ₂)	12191-79-3	25-40%	-
Aluminum	7429-90-5	10-40%	-
Graphite (Natural graphite) (Artificial graphite)	7782-42-5 7440-44-0	10-20%	-
Copper	7440-50-8	5-15%	-
Organic electrolyte	-	10-20%	Inflammable liquid

Lithium equivalent content 3.828[g] for battery pack

3. 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 : -----

4. FIRST-AID MEASURES

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

- 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.
- 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.
- 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.
- 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.

5. FIRE-FIGHTING MEASURE

- If fire or explosion occurs when battery are on charge, should shut off power to charger. In case of fire when 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, dry chemical, and foam extinguishers are preferred for small fires.
- extinguishers:
water / CO₂ / dry chemical / foam

6. 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.

7. 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 :
Storage conditions (suitable, to be avoided): Avoid direct sunlight, high temperature, high humidity. Store in cool place (temperature: -20 ~ 35 degree C, humidity: 45 ~ 85%).
Incompatible products: Conductive materials, water, seawater, strong oxidizers and strong acids
Packing material (recommended, not suitable): Insulation and tear proof materials are recommended.

8. EXPOSURE CONTROLS

- Engineering controls: -----

Control parameter		
Common chemical name / General name	TLV-TWA	BEI
Lithium Cobaltic (Li Co O2)	0.02mg/m3 (as cobalt)	-
Aluminum	10mg/m3 (metal coarse particulate) 5mg/m3 (inflammable powder) 5mg/m3 (weld fume)	-
Carbon (Natural graphite) (Artificial graphite)	2mg/m3 (inhalant coarse particulate)	-
Copper	0.2mg/m3 (fume) 1.0mg/m3 (a coarse particulate, Mist)	-
Organic electrolyte	-	-

TLV-TWA: Threshold Limit Value-Time Weighted Average concentration

BEI: Biological Exposure Indices

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	(Solid)	(Solubility in water)	/
Cell Color	(Black)	(Explosion limit)	/
Odor	(Odorless)	(Auto flammability)	/
Flashpoint	/	(Melting Point)	LiCoO2 about 1130C
Boiling Point	/	(Freezing Point)	/

10. STABILITY AND REACTIVITY

- Stability :
Stable under normal use
- Reactivity :
Avoid contact with water and acids.

11. TOXICOLOGICAL INFORMATION

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

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

UN regulation

- ID number:3481
- Proper shipping name:
Lithium ion batteries packed contained in equipment
- Class: 9*
- Packing group: II *

Regulation depends on region and transportation mode

- Worldwide, air transportation
IATA-DGR ["packing instruction 966, 969 section II"]
IATA-DGR ["packing instruction 967, 970 section II"]
- Worldwide, sea transportation
IMO-IMDG Code [special provision 188]
- Europe, road transportation:
ADR [special provision 188]

15. REGULATORY INFORMATION

(ACGIH)

(OSHA)

European Union (UN)

(ISO)

Other Information

16. OTHER INFORMATION

- This safety data sheet is offered an agency who handles this product to handle it safely.
- The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures.
- ***The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.***
- This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

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Prepared and approved by

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