Panasonic

Energy Company
Panasonic Corporation
1-1, Matsushita-cho, Moriguchi City, Osaka
570-8511, Japan Tel +81-6-6991-1141
http://panasonic.co.jp/ec/en

# PRODUCT SAFETY DATA SHEET

## 1 Name of Product and Manufacturer

| | |
|---|---|
| Name of Product | : Polycarbonmonofluoride lithium battery |
| Model name | : BR-C |
| Name of Company | : Panasonic Corporation Energy Company |
| Address | : 1-1 Matsushita-cho, Moriguchi City, Osaka, 570-8511, Japan |
| Division | : Energy Solution Business Unit |
| Department | : Product Engineering Group |
| Telephone number | : +81-6-6994-4537 |
| For emergency | : +81-6-6991-1141 |

Document number: CYBRE-PSDS-2 Revised date: April 1, 2009

## 2 Substance Identification

| | | | |
|---|---|---|---|
| Substance | : Lithium battery<br>(Lithium metal battery, Primary lithium battery) | | |
| CAS number | : Not specified. | | |
| UN Class | : Class9 | UN No. 3090 (If packed with/in equipment; UN3091) | |
| | And they are out of scope for SP A154 and comply with A164 . (3) | | |
| Composition | : Positive electrode | ; Polycarbonmonofluoride | 23wt% |
| | : Negative electrode | ; Lithium metal | 4wt% (1.75g) |
| | : Electrolyte | ; Organic electrolyte | 26wt% |

Energy Company
Panasonic Corporation
1-1, Matsushita-cho, Moriguchi City, Osaka
570-8511, Japan Tel +81-6-6991-1141
http://panasonic.co.jp/ec/en

## 3 Hazardous and Toxicity Class

| | |
|---|---|
| Class name | : Not applicable for regulated class |
| Hazard | : Electrolyte and lithium metal are inflammable.<br>Risk of explosion by fire if batteries are disposed in fire or heated above 100 degree C.<br>Stacking or jumbling batteries may cause external short circuits, heat generation, fire or explosion. |
| Toxicity | : Vapor generated from burning batteries, may make eyes, skin and throat irritate. |

## 4 First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

| | |
|---|---|
| Eye contact | : Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Take a medical treatment. If appropriate procedures are not taken, this may cause an eye irritation. |
| Skin contact | : Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin. |
| Inhalation | : Remove to fresh air immediately. Take a medical treatment. |

## 5 Fire Fighting Measures

| | |
|---|---|
| Extinguishing method | : Since vapor, generated from burning batteries may make eyes, nose and throat irritates, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases. |
| Fire extinguishing agent | : Alcohol-resistant foam and dry sand are effective. |

## 6 Measures for electrolyte leakage from the battery

- Take up with absorbent cloth.
- Move the battery away from the fire.

Energy Company
Panasonic Corporation
1-1, Matsushita-cho, Moriguchi City, Osaka
570-8511, Japan Tel +81-6-6991-1141
http://panasonic.co.jp/ec/en

**7 Handling and Storage**

- When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.
- Use strong material for packaging boxes so that they will not be damaged by vibration, impact, dropping and stacking during their transportation.
- Do not recharge batteries. Do not deform batteries.
- Do not mix different type of batteries.
- Do not solder directly onto batteries.
- Do not let water penetrate into packaging boxes during their storage and transportation.
- Do not store the battery in places of the high temperature exceeding 35 degree. C or under direct sunlight or in front of a stove. Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, water drop or not to store it under frozen condition.
- Fire fighting apparatus should be installed.

**8 Exposure Control** (in case of electrolyte leakage from the battery)

| | |
|---|---|
| Acceptable concentration | : Not specified in ACGIH. |
| Facilities | : Provide appropriate ventilation system such as local ventilator in the storage place. |
| Protective clothing | : Gas mask for organic gases, safety goggle, and safety glove. |

**9 Physical and Chemical Properties**

| | |
|---|---|
| Appearance | : Cylindrical shape |
| Voltage | : 3 volts |

**10 Stability and Reactivity**

Since batteries utilize a chemical reaction they are actually considered a chemical product.
As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

**11 Toxicological Information** (in case of electrolyte leakage from the battery)

| | |
|---|---|
| Acute toxicity | : Oral(rat) LD50 ＞ 2,000mg/kg (estimated) |
| Irritation | : Irritating to eye and skin. |
| Mutagenicity | : Not specified. |
| Chronic toxicity | : Not specified. |

Energy Company
Panasonic Corporation
1-1, Matsushita-cho, Moriguchi City, Osaka
570-8511, Japan Tel +81-6-6991-1141
http://panasonic.co.jp/ec/en

## 12 Ecological Information

In case of the worn-out battery was disposed in land, the battery case may be corroded, and leak electrolyte. But, we have no ecological information.

## 13 Disposal Considerations

When the battery is worn out, dispose of it under the ordinance of each local government or the low issued by relating government.

## 14 Transport Information

During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation.

During the transportation do not allow packages to be fallen down or damaged.

For marine or air shipment, the package must meet packing group Ⅱ UN packaging standards.

## 15 Regulatory Information

IATA Dangerous Goods Regulations
ICAO Technical Instructions for the safe transport of dangerous goods by air

## 16 Other Information

This PSDS is described on the basis of present materials, information and data. So, please notice that it will be revised by new information. Also this sheet is supplied to entrepreneurs as reference information in order to handle batteries safely. Please notice that entrepreneur have to deal with batteries as they think fit.

References

(1) UN Recommendations on the Transportation of Dangerous Goods Model Regulations (ST/SG/AC.10/1/Rev.15)
(2) Federal Resister / Vol. 65, No. 174 / Thursday, September 7, 2000 / Notices
(3) IATA Dangerous Goods Regulations 50th Edition（2009）

(END)