

No.SET2017-00523

# MSDS Report

**Client unit:** SHENZHEN PKCELL BATTERY CO.,LTD

**Name of sample:** 3VLithium / Manganese Cell

**Address:** 4th Building, Meitai Technology Park, No.1231,Guanguang Road,  
Osmanthus Community,Guanlan Town,Longhua New Area,Shenzhen,  
China



Tested by: *Xie Lingling* Checked By: *Calvin* Approved By: *Billow*

Date: Jan.04, 2017

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## 1 Identification of substance

### Product details

**Product name:** 3VLithium / Manganese Cell

**Manufacturer:** SHENZHEN PKCELL BATTERY CO.,LTD

**Address:** 4th Building,Meitai Technology Park,No.1231,Guanguang Road,Osmanthus Community,Guanlan Town,Longhua New Area,Shenzhen, China

**Producer:** SHENZHEN PKCELL BATTERY CO.,LTD

**Address:** 4th Building,Meitai Technology Park,No.1231,Guanguang Road,Osmanthus Community,Guanlan Town,Longhua New Area,Shenzhen, China

**Model No.:** CR2025/ CR2032/ CR927/ CR1025/ CR1220/ CR1225/ CR1216/ CR1616/ CR1620/ CR1632/ CR2330/ CR2354/ CR2430/ CR2450/ CR2477/ CR2016/ CR123A/ CR2/ CR14250/ CR14505/ CR-P2/ 2CR5

**Tel:** 0755-86670642      **Emergency telephone:** 0755-86670643      **Fax:** 0755-86670609

**Mail:** info@pkcell.com

**MSDS Code:** SET2017-00523

## 2 Composition/Data on components

### Chemical characterization:

#### Description : (CAS#)

| Chemical Name                 | In % By Weight | CAS No.   | EC No.    | Molecular Formula                             |
|-------------------------------|----------------|-----------|-----------|---|
| Lithium                       | 2.5            | 7439-93-2 | 231-102-5 | Li  |
| Manganese Dioxide             | 37             | 1313-13-9 | 215-202-6 | MnO <sub>2</sub>                              |
| Graphite                      | 3.5            | 7782-42-5 | 231-955-3 | C   |
| Lithium perchlorate           | 1.0            | 7791-03-9 | 232-237-2 | LiClO <sub>4</sub>                            |
| Ethylene glycol dimethy ether | 6.0            | 110-71-4  | 203-794-9 | C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> |
| Propylene carbonate           | 7.5            | 108-32-7  | 203-572-1 | C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>  |
| Iron                          | 29             | 7439-89-6 | 231-096-4 | Fe  |
| Chromium                      | 10.5           | 7440-47-3 | 231-157-5 | Cr  |
| Molybdenum                    | 1.0            | 7439-98-7 | 7439-98-7 | Mo  |
| Polypropylene                 | 2.0            | 9003-07-0 | NA        | (C <sub>3</sub> H <sub>6</sub> ) <sub>n</sub> |

Abbreviation: CAS No. is Chemical Abstract Service Registry Number.

EC No. is European Inventory of Existing Commercial chemical Substances Number.

NA = Not apply.

CCIC Southern Electronic Product Testing (Shenzhen) CO., Ltd.

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## 3 Hazards identification

**Emergency Overview:** May explode in a fire, which could release hydrogen fluoride gas.

Use extinguishing media suitable for materials burning in fire.

**Primary routes of entry:** Skin contact, Eye contact, Inhalation, Ingestion

**Symptoms of exposure:**

Skin contact: Contact with damaged batteries may cause burns.

Eye contact: Contact with damaged batteries may cause burns. Eye damage is possible.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Swallowing is not anticipated due to battery size. Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Reported as carcinogen: Not applicable.

## 4 First aid measures

**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 15min.

**Skin contact**

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

**Ingestion**

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

## 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 Fire fighting Instructions:**

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



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## Fire fighting Equipment:

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

## 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.

## 7 Handling and storage

**Handling:** Closed operation. To supply with sufficient partial air exhaust. The operating staff must have received special training and abide by the operating regulations. It is advised that the staff wear work clothes, respirator, chemical protective glasses and gloves. Keep away from fire and heating sources. No smoking in the workplace. Avoid contacting with oxidizers and acid. Do not expose the battery to excessive physical shock or vibration. Short-circuiting should be avoided. Place the cell beyond the child's reach. Take care when transport, prevent damaging the packing and container. Equip with relevant types and quantities of extinguishment instruments and device for divulgence handling. Empty the container which may include harmful material.

**Storage:** Store in a cool, dry place. Keep away from fire and heating sources. Don't keep the samples with oxidizer and acid. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.

## 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 safety practices of employer.

Gloves: Not required for handling of cells.

Foot protection: Steel toed shoes recommended for large container handling.

## 9 Physical and chemical properties:

### General Information

**State:** Silvery button battery

**Color:** Silvery

### Chemical properties:

**Melting Point:** Not Applicable

**Vapor Pressure:** Not Applicable

**Vapor Density:** Not Applicable

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**Solubility In Water:** Insoluble  
**Specific Gravity (H<sub>2</sub>O = 1):** Not Applicable  
**pH:** Not Applicable  
**Density:** Not Applicable

## 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.

## 11 Toxicological information

**This product does not elicit toxicological properties during routine handling and use**

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

**Teratogenicity:** No information is available.

**Reproductive toxicity:** No information is available.

**Acute toxicity:** No information is available.

**If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.**

## 12 Ecological information

Some materials within the cell are bio-accumulative. Under normal conditions, These materials are contained and pose no risk to persons or the surrounding environment.

## 13 Disposal considerations

California regulated debris

RCRA Waste Code: Non-regulated

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

## 14 Transport information

In general, all batteries in all forms of transportation (by sea, land or air) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents

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spillage of contents.

The lithium button cell are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below (Essentially, they are properly packaged and labeled, Contains less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

| Regulatory Parties | Special Provisions                      |
|--------------------|---|
| ADR                | 188,230,310,636,656                     |
| IMDG               | 188,230,310,957                         |
| UN                 | UN3090, UN3091                          |
| US DOT             | 29, A54, A101, A 100                    |
| IATA, ICAO         | Packaging Instructions 968 (section II) |

## 15 Regulations

OSHA Hazard communication standard (29 CFR 1910.1200)

Hazardous  Non-hazardous

ISO 11014-2009 Safety data sheet for chemical products - Content and order of sections.

The International Air Transport Association (IATA) Dangerous Goods Regulations, 58<sup>th</sup>, 2017.

## 16 Other information:

The above information are correct, but does not contain all of the information and only used as a guide. The information in this document is based on our current knowledge, it apply to this product as for the correct safety tips. The information does not guarantee the properties of this product. Our company is not responsible for any damages caused by the products.

Note:

-The model for test is CR2032.

-Sample photo:

