

## MATERIAL SAFETY DATA SHEET

The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. However, JHIH HONG makes no warranty expressed or Implied.

### Section 1-Product and Company Identification

Product Name: Lithium Manganese Dioxide Batteries		CHEMICAL SYSTEM: Lithium Manganese Dioxide	Volts: 3 V
Size: CR2032	Trade Mark: JHT	Approximate Weight: 3.2 g	
Designed for Recharge: NO		Date of preparation: Jan 01 2017	
Company: JHIH HONG TECHNOLOGY CO.,LTD.		Telephone Numbers: +886-2-22989236	
Address (Number, Street, City, State, and ZIP Code): 6F, No.15, Wu Chuan Road, Wu-Ku Industrial Park, New Taipei 248		Fax Numbers: +886-2-22901657	

### Section 2- Composition/Information on Ingredients

Ingredient	CAS NO.	Content (wt%)
Lithium	7439-93-2	2.25 (0.072 gram)
Propylene Carbonate	108-32-7	6.1
Manganese dioxide	1313-13-9	30.0
1,2-Dimethoxyethane	110-71-4	4.2
Lithium perchlorate	7791-03-9	0.9
Graphite	7782-42-5、1333-86-4	3.4
Polypropylene	9003-07-0	4.1
Stainless steel	7439-89-6	49.05

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### **Section 3 – Hazards Identification**

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This contains lithium, organic solvent, and other combustible materials. For this reason, Improper handling of the battery could lead to distortion, leakage\*, overheating, explosion of fire and cause human injury or equipment trouble. Please strictly observe safety instruction.

(\*Leakage is defined as an unintended escape of liquid from a battery.)

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### **Section 4 – First Aid Measures**

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None unless internal materials exposure. If contents are leaked out, observe following Instructions

Inhalation	Fumes can cause respiratory irritation . Remove to fresh air and consult a physician.
Skin	Immediately flush skin plenty of water. If itch or irritation by chemical bum persists, consult a physician.
Eyes	Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately
Ingestion	If swallowing a battery, consult a physician immediately. If contents come into mouth, immediately rinse by plenty of water and consult a physician.

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### **Section 5-Fire Fighting Measures**

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**Extinguishing Media** Extinguisher of alkaline metal fire is effective.  
Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolved by the reaction of water and lithium and it can form an explosive mixture. Therefore in the case that lots of lithium batteries are burning in a confined space ,use a smothering agent.

**Fire fighting procedure** Use self-contained breathing apparatus and full protective gear not to inhale harmful gas .

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### **Section 6-Accidental Release Measures**

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**Accidental Releases:** Do not breathe vapors or touch liquid with bare hands (see section 4).

**Waste Disposal Methods:** Evacuate area. If possible, a trained person should attempt to stop or contain the leak by neutralizing spill with soda lime or baking soda. A NIOSH Approved Acid Gas Filter Mask or Self-Contained Breathing Apparatus should be worn. Seal leaking battery and soda lime or baking soda in a plastic bag and dispose of as hazardous waste.

**Other:** Follow North American Emergency Response Guide (NAERG)#138 for cells involved in an accident, cells that have vented, or have exploded.

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### **Section 7-Handling and Storage**

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#### 1) Handling

Never swallow. Never reverse the positive and negative terminals when mounting . Never short-circuit the battery. Never heat. Never expose to open flame. Never disassemble. Never weld the terminal or wire to the body of the battery directly. Never touch the liquid leaked out of battery . Never bring fire close to battery liquid. Never keep in touch with battery.

#### 2) Storage

Never let the battery contact with water. Never store the battery in hot and high humid place. Don't push the battery excessively and destroy the battery packaging, often wet and ventilating the dry place to keep in the normal atmospheric temperature, find the unusual battery is dealt with in time

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## **Section 8 – Exposure Controls, Personal Protection**

Respiratory Protection		NA
Ventilation	Local Exhaust	NA
	Mechanical	NA
	Special	NA
	Other	NA
Eye Protection		NA
Protective Gloves		NA
Other protective clothing		NA

## **Section 9 – Physical/Chemical Characteristics**

State of matter: Solid state

Form : Button type

Color: True quality of stainless steel

Smell : Tasteless ( At the time of the fullness)

Resolve temperature: NA

Spontaneous combustion temperature: NA

Explosion demarcation line : Higher than 170 degrees Centigrade of batteries will be burnt

To the density ( Water =1): NA

Dissolving: NA

Boiling Point:	1,2-Dimethoxyethane : 83°C
Vapor Pressure:	1,2-Dimethoxyethane :6.40(20°C)
Vapor Density:	1,2-Dimethoxyethane : 3.11
Solubility in Water:	1,2-Dimethoxyethane : :diffluence contact with water
Specific Gravity:	1,2-Dimethoxyethane :1.63
Melting Point:	1,2-Dimethoxyethane :-67°C
Evaporation Rate:	N/A
Water Reactive:	1,2-Dimethoxyethane : :diffluence contact with water
Appearance & Odor:	1,2-Dimethoxyethane : achromatism liquid; slight aether odor.

## **Section 10 – Stability and Reactivity**

Stability	Stable
Incompatibility	Water
Hazardous polymerization	Will not occur.
Condition to avoid	See section 7.
Hazardous Decomposition or Byproducts	Hydrogen



Maximum net quantity (mass) per package	2.5 Kg	N/A	N/A
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Equivalent lithium content (g) is calculated as 0.3 (g/Ah) times the rated capacity (Ah) .

- 2) Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part V, section 38.3 Cells
- 3) Section IB of Packing Instruction PI 968:
  - a) Be marked to indicate that it contains lithium metal cells & batteries, and that special procedures be followed in the event that the package is damaged.
  - b) Each package must be labeled with a lithium battery handling label.
  - c) Be accompanied by a shipping paper explaining that the cells and batteries are excepted from regulations.
  - d) Packaging requirement following to above 1) Lithium weight or equivalent lithium content must be less than value in table.
  - e) Be capable of withstanding a 1.2m drop test in any orientation without shifting of the contents that would allow short-circuiting, and without release of package contents.

Because the consignor has to take the responsibility, the customer has to confirm the exception conditions when shipping.

## **Section 15-Regulatory Information**

EC Labeling : None  
Risk Phrases :None  
Safety Phrases : None

Labeling is not required because batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

## **Section 16-Other Information**

Major environmental regulations are as follows:

- 1) EU BATTERY DIRECTIVE(2006/66/EC)
- 2) California Code of regulations ,Title 22,Division 4.5,Chapter 33:Best Management Practices for Perchlorate Materials

Note:

- 1) The symbol in above-mentioned materials " ——"representative consult at present it materials not relevant, but symbol "NA" represent field the getting more suitable for material.
- 2) If you want further information, please contact JHIH HONG sales representative.

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