



# PAK KO BATTERIES FACTORY LIMITED



Unit 11, 9/F., Block A, Hoi Luen Ind. Ctr., No. 55 Hoi Yuen Rd., Kwun Tong, Kln., H.K.  
Tel.: (852) 2345-5245 Fax.: (852) 2797-9591 E-mail: pakko@pakkobatteries.com  
<http://www.pakkobatteries.com>

Approval Date:

**1 Jan 2017**

Page:

**1 Of 4**

**No.: PAKKOMSDSCR2032**

## ***Safety Data Sheet***

### **Coin Type Lithium Manganese Dioxide Battery**

#### **Specification :**

**Model No. Pak Ko CR2032**

**Weight: 1.95g**

#### **Section1 : Information of Manufacturer**

Pak Ko Batteries Factory Limited  
Rm 911, Blk A, Hoi Luen Ind. Ctr.,  
55 Hoi Yuen Rd., Kwun Tong, Kln.  
Tel: 852 2345 5245

In case of poisoning, contact Mr. L.W. Poon

Tel: 852 2345 5245

#### **Section 2: Hazard Classification**

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

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

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#### **Section 3 : Hazardous Ingredients / Identity Information**

<b>Ingredient</b>	<b>CAS NO.</b>	<b>Content (wt%)</b>
Manganese Dioxide	1313-13-9	31.00%
Lithium	7439-93-2	2.00%
Lithium Perchlorate	7791-03-9	0.50%
Graphite	7782-42-5	3.00%
Propylene Carbonate	108-32-7	2.50%
Iron	7439-89-6	61.00%



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## **Section 4: First Aid Measures**

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

- 1) **Inhalation:** Fumes can cause respiratory irritation. Remove to fresh air and consult a physician.
- 2) **Skin:** Immediately flush skin with plenty of water. If itch or irritation by chemical burn persists, consult a physician.
- 3) **Eyes:** Immediately flush skin with plenty of water for at least 15 minutes. Consult a physician immediately.
- 4) **Ingestion:** If swallowing a battery, consult a physician immediately.  
If Contents come into mouth, immediately rinse by plenty of water and consult a physician.

## **Section 5: Fire and Explosion Hazard Data**

Flash point ( Method Used )	N.A.	Ignition temp.	N.A.
Flammable Limits	N.A.	LEL	N.A.
UEL	N.A.	Extinguishing Media	N.A.
Special Fire Fighting Procedures	N.A.		

### Unusual Fire and Explosion Hazards

Do not dispose of battery in fire - may explode.

Do not short - circuit battery - may explode.

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

## **Section 6 : Accidental Release or Spillage**

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leaking should be handled with rubber gloves.

Avoid direct contact with electrolyte.

## **Section 7: Handling and Storage**

Safe handling and storage advice

Never swallow. Never charge. Never heat. Never expose to open flame.

Never disassemble. Never reverse the positive and negative terminals when mounting.

Never short-circuit the battery. Never weld the terminal or wire to the body of the battery directly.

Never use different batteries together. Never touch the liquid leaked out of battery.

Never bring fire close to battery liquid. Never keep in touch with battery.



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Page:

**3 Of 4**

## Section 8: Exposure Controls / Personal Protection

Occupational Exposure Limits:	LTEP	N.A.	STEP	N.A.
Respiratory Protection ( Specify Type )	N.A.			
Ventilation	Local Exhausts	N.A.	Special	N.A.
	Mechanical (general)	N.A.	Other	N.A.
Protection Gloves	N.A.		Eye Protection	N.A.
Other Protective Clothing or Equipment	N.A.			
Work / Hygienic Practices	N.A.			

## Section 9 : Physical / Chemical Characteristics

Form :	N.A.	Specific Gravity (H2O=1)	N.A.
Boiling Point	N.A.	Melting Point	
Vapor Pressure (mm Hg)	N.A.	Evaporation Rate(Buty 1 Acetate=1)	N.A.
Vapor Density ( AIR=1 )	N.A.	pH	N.A.
Solubility in Water	N.A.	Appearance and Odor	N.A.

## Section 10: Reactivity Data

Stability Yes (X)	Unstable ( )	Conditions to Avoid
	Stable ( X )	

Incompatibility (Materials to Avoid )

Hazardous Decomposition or By products

**When heated, battery may emit hazardous vapour of KOH/ NaOH and Hg**

Hazardous Reactions Yes (X)	May Occur ( )	Conditions to Avoid
	Will Not Occur ( X )	

## Section 11: Toxicological information

Route(s) of Entry Yes=(X) Inhalation? (N.A.) Skin? (N.A.) Ingestion? (N.A.)

Health Hazard (Acute and Chronic ) / Toxicological in formation

In case of electrolyte leakage, skin wil be itchy when contaminated with electrolyte.

## Section 12: Ecological Information

**N.A.**



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Page:

**4 Of 4**

## **Section 13: Disposal Method**

The battery may be regulated by national or local regulation. Please follow the instructions of proper regulation. As electric capacity is left in a discarded battery and it comes into contact with other metals, it could lead leakage, overheating, or explosion, so make sure to cover the (+) and (-) terminals with friction tape or some other insulator before disposal.

## **Section 14: Transportation Information**

### **1) Shipping Name (UN Number)**

Lithium metal batteries (UN3090)

Lithium metal batteries packed with equipment (UN3091)

Lithium metal batteries contained in equipment (UN3091)

### **2) Hazard Classification**

Class 9 (Miscellaneous)

Organizations governing the transport of lithium batteries

Area	Method	Organization	Special Provision
International	Air	IATA, ICAO	Packing Instruction 968-970
International	Marine	IMO	SP188
U.S.A.	Air, Rail, Road, Marine	DOT	49 CFR Section 173.185

Their regulations are based on the UN Recommendations. Each special provision provides specifications on exceptions packaging for lithium metal batteries shipping. The products can be transported as “Non Dangerous Goods” and by meeting the requirements of packing instruction 968 section II or 969 section II or 970 section II of IATA-DGR (58th edition) or SP188 of IMO-IMDG Code (2017 Edition).

## **Section 15: Regulatory Information**

Major applicable regulations for the transportation of lithium metal cells and batteries are as follows:

UN Model Regulations: United Nations UN/ ST/SG/AC.10/1/Rev.16, Recommendations on the Transport of Dangerous Goods, 18th revised edition

International Civil Aviation Organization (ICAO): Technical Instructions for the Safe Transport of Dangerous Goods by Air, 2013-2017 Edition.

International Air Transport Association (IATA): Dangerous Goods Regulations, 58 th Edition

International Maritime Organization (IMO): International Maritime Dangerous Goods (IMDG) Code, 2017 Edition

## **Section 16: Other Information**

The data in this Safety Data Sheet relates only to the specific material designated herein.