

# SAFETY DATA SHEET

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Revision Number 2



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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** CR2032

### Other means of identification

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Lithium Primary/Metal Batteries

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

**Supplier Name** SHUN WO NEW POWER BATTERY TECHNOLOGY LTD.  
**Supplier Address** UNIT 920, NAN FUNG COMMERCIAL CENTRE,  
19 LAM LOK ROAD, KOWLOON BAY  
HONG KONG  
N/A  
N/A  
HK  
**Supplier Phone Number** Phone:852-23673218  
Contact Phone852-23673218 EXT 13  
**Supplier Email** cherrylam@newsun.com.hk  
**Emergency telephone number**

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.


Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2



Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b>	<b>Danger</b>	
<b>Hazard Statements</b>	Harmful if swallowed Harmful if inhaled Causes skin irritation Causes serious eye irritation May cause cancer May damage fertility or the unborn child May cause damage to organs through prolonged or repeated exposure	
		
This is a battery. In case of rupture: the above hazards exist.		
<b>Appearance</b>	Silver	<b>Physical State</b> Solid
		<b>Odor</b> Tar like

**Precautionary Statements - Prevention**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear eye/face protection

**Precautionary Statements - Response**

- IF exposed or concerned: Get medical advice/attention
- Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention

**Skin**

- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse

**Inhalation**

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Ingestion**

- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth



**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

3.94% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Very toxic to aquatic life with long lasting effects

**Interactions with Other Chemicals**

Use of alcoholic beverages may enhance toxic effects.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Supplier Trade Secret	Proprietary	30 - 60	*
Supplier Trade Secret	Proprietary	10 - 30	*
Supplier Trade Secret	Proprietary	5 - 10	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	1 - 5	*
Supplier Trade Secret	Proprietary	< 0.1	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES****First aid measures****General Advice**

First aid is upon rupture of sealed battery.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**Skin Contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

**Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur.

**Ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.



**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## **5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust. Evacuate personnel to safe areas.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental Precautions

**Environmental Precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Supplier Trade Secret	TWA: 0.02 mg/m <sup>3</sup> Mn TWA: 0.1 mg/m <sup>3</sup> Mn	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
Supplier Trade Secret	TWA: 0.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>

Supplier Trade Secret	TWA: 2 mg/m <sup>3</sup> respirable fraction all forms except graphite fibers	TWA: 15 mg/m <sup>3</sup> total dust synthetic TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic (vacated) TWA: 2.5 mg/m <sup>3</sup> respirable dust natural (vacated) TWA: 10 mg/m <sup>3</sup> total dust synthetic (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> respirable dust
Supplier Trade Secret	TWA: 2 ppm	-	
Supplier Trade Secret	TWA: 1.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> TWA: 0.015 mg/m <sup>3</sup>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

**Other Exposure Guidelines** Hexavalent Chrome may be formed during welding Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** If splashes are likely to occur: Wear safety glasses with side shields (or goggles). None required for consumer use.

**Skin and Body Protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. None required for consumer use.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not breathe dust. Wash hands before breaks and immediately after handling the product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical State</b>	Solid	<b>Odor</b>	Tar like
<b>Appearance</b>	Silver	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	



<b>Flammability Limit in Air</b>		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Specific Gravity</b>	No data available	None known
<b>Water Solubility</b>	Insoluble in water	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	0	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	0	None known
<b>Explosive properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Excessive heat.

**Incompatible materials**

Strong acids. Strong oxidizing agents. Strong bases.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).

<b>Eye Contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to eyes. May cause redness, itching, and pain. May cause temporary eye irritation.
<b>Skin Contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. (based on components).

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Supplier Trade Secret	= 984 mg/kg ( Rat )	-	-
Supplier Trade Secret	= 9000 mg/kg ( Rat )	-	-
Supplier Trade Secret	= 29000 mg/kg ( Rat )	> 20 mL/kg ( Rabbit )	-
Supplier Trade Secret	> 10000 mg/kg ( Rat )	-	-
Supplier Trade Secret	-	-	= 40000 ppm ( Rat ) 4 h
Supplier Trade Secret	> 9000 mg/kg ( Rat )	-	-

### Information on toxicological effects

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes. Coughing and/ or wheezing.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Supplier Trade Secret		Group 3		
Supplier Trade Secret	A3	Group 2B	Reasonably Anticipated	X
Supplier Trade Secret		Group 2B	Reasonably Anticipated	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

**Reproductive Toxicity** Contains a known or suspected reproductive toxin.



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<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).
<b>Chronic Toxicity</b>	No known effect based on information supplied. Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.
<b>Target Organ Effects</b>	Respiratory system. Eyes. Skin. Gastrointestinal tract (GI). Reproductive System. Blood. Central Nervous System (CNS). Central Vascular System (CVS). Kidney. Cardiovascular system. Liver. Systemic Toxicity.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)**

997.00 mg/kg

**ATEmix (inhalation-gas)**

14,388.00 ppm (4 hr)

**ATEmix (inhalation-dust/mist)**

4.80 mg/l

**ATEmix (inhalation-vapor)**

35.00 ATEmix

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Supplier Trade Secret		96h LC50: = 13.6 mg/L (Morone saxatilis)		
Supplier Trade Secret	72h EC50: > 500 mg/L (Desmodesmus subspicatus)	96h LC50: > 1000 mg/L (Cyprinus carpio) 96h LC50: = 5300 mg/L (Leuciscus idus)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L
Supplier Trade Secret	72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio)		48h EC50: > 100 mg/L 48h EC50: = 1 mg/L

### Persistence and Degradability

No information available.

### Bioaccumulation

Chemical Name	Log Pow
Supplier Trade Secret	<0
Supplier Trade Secret	0.48
Supplier Trade Secret	1

### Other adverse effects

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated Packaging**

Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number**

D007

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Supplier Trade Secret		Included in waste streams: F032, F034, F035, F037, F038, F039	5.0 mg/L regulatory level	
Supplier Trade Secret	(hazardous constituent - no waste number)	Included in waste streams: F006, F039		

**California Hazardous Waste Codes 181**

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Supplier Trade Secret	Toxic Corrosive Ignitable
Supplier Trade Secret	Corrosive Ignitable Reactive
Supplier Trade Secret	Toxic powder Ignitable powder

**14. TRANSPORT INFORMATION**

**Note:**

The transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment: 1. Air shipments must meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations. 2. Meet the requirements for the US Department of Transportation listed in 49 CFR 173.185. 3. The transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to the Federal Register December 15, 2004 (Hazardous Materials; Prohibited on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule)  
Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "special provision A45 of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

**DOT**

NOT REGULATED  
 Proper Shipping Name NON-REGULATED  
 Hazard Class 9  
 Emergency Response Guide Number 138



<b><u>TDG</u></b>	Not regulated
<b><u>MEX</u></b>	Not regulated
<b><u>ICAO</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b><u>IMDG/IMO</u></b>	Not regulated
<b>Proper Shipping Name</b>	NON-REGULATED PER SP 188
<b>Hazard Class</b>	N/A
<b>EmS-No.</b>	F-A, S-I
<b><u>RID</u></b>	Not regulated
<b><u>ADR</u></b>	Not regulated
<b><u>ADN</u></b>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Supplier Trade Secret -		10 - 30	1.0
Supplier Trade Secret -		5 - 10	1.0
Supplier Trade Secret -		1 - 5	1.0
Supplier Trade Secret -		1 - 5	0.1
Supplier Trade Secret -		< 0.1	0.1

#### **SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

#### **CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Supplier Trade Secret		X	X	

Supplier Trade Secret		X	X	
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**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Supplier Trade Secret	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Supplier Trade Secret	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Supplier Trade Secret -	Carcinogen
Supplier Trade Secret -	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Supplier Trade Secret			X	X	X
Supplier Trade Secret	X	X	X	X	X
Supplier Trade Secret	X	X	X	X	X
Supplier Trade Secret	X	X	X		
Supplier Trade Secret	X	X	X		
Supplier Trade Secret	X	X	X	X	
Supplier Trade Secret	X	X	X	X	X

**International Regulations**

**Mexico**

**National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Supplier Trade Secret ( 10 - 30 )		Mexico: TWA= 0.2 mg/m <sup>3</sup>
Supplier Trade Secret ( 5 - 10 )		Mexico: TWA 0.5 mg/m <sup>3</sup>
Supplier Trade Secret ( 1 - 5 )		Mexico: TWA= 2 mg/m <sup>3</sup>
Supplier Trade Secret ( < 0.1 )		Mexico: TWA 1 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**



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<b>NFPA</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards - Personal Protection</b> X
<b>HMIS</b>	<b>Health Hazards</b> 0	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	

**Chronic Hazard Star Legend** \* = Chronic Health Hazard

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Issuing Date</b>	12-Sep-2012
<b>Revision Date</b>	28-Jan-2015
<b>Revision Note</b>	No information available

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN  
Product name: Alkaline Battery

Revision date: 06/03/2015  
Printing date: 06/03/2015

## 1. Identification

### *(a) Product identifier*

Product name: Alkaline Battery

### *(b) Other means of identification*

Product description: Model: LR03  
Nominal Voltage: 1.5V  
Weight: 10.6g  
Dimension: 10.2mm×44.0mm (D×H)

### *(c) Recommended use of the chemical and restrictions on use*

Recommended use: Battery.  
Restriction on use: No information available.

### *(d) Details of the supplier of the product*

Company name(China) SHENZHEN PKCELL BATTERY CO., LTD.  
Address: E2 Building, Guangming Technology Park, No.24 Zhonghua Road, Longhua New Area, Shenzhen, China.  
E-mail: info@pkcell.net  
Telephone: +86-755-86670672

### *(e) Emergency phone number*

+86-755-86670672

## 2. Hazard(s) identification

### *(a) Classification of the chemical*

The batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. A sealed Alkaline Battery is not hazardous in normal use.

### *(b) Label elements*

Pictogram(s): No pictogram.  
Signal word: No signal word.  
Hazard statements: No hazard statement.  
Precautionary statements: No precautionary statement.

### *(c) Description of any hazards not otherwise classified*

In case of mistreatment (abusive over charge, reverse charge, external short circuit...) and in case of fault some electrolyte can leak from the cell through the safety device. In these cases refer to the risk of the electrolyte. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system, and skin. The electrode materials are only hazardous, if the materials are released by mechanical damaging of the cell or if exposed to fire.

Skin touch: Contact with battery electrolyte may cause burns and skin irritation.

Eyes touch: Contact with battery electrolyte may cause burns. Eye damage is possible.

Inhalation: Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

Ingestion: Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

# Safety Data Sheet

According to HCS-2012 APPENDIX D TO §1910.1200

Version: 1.0/EN  
Product name: Alkaline Battery

Revision date: 06/03/2015  
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## **(d) Ingredient with unknown acute toxicity**

No information available.

## 3. Composition/information on ingredients

### **(a) Mixtures information**

Chemical name	CAS No.	Concentration%
Iron	7439-89-6	20.42
Manganese dioxide	1313-13-9	40.48
Graphite	7782-42-5	6.35
Potassium hydroxide	1310-58-3	6.77
Water	7732-18-5	8.99
Zinc	7440-66-6	16.49
Indium hydroxide (In(OH) <sub>3</sub> )	20661-21-6	0.01
Zinc oxide	1314-13-2	0.49

## 4. First-aid measures

### **(a) Description of first aid measures**

- Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice / attention if you feel unwell.
- Skin contact: Remove contaminated clothes and rinse the skin with plenty of water. Get medical advice / attention if you feel unwell.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing. Get medical advice / attention if you feel unwell.
- Ingestion: Have victim drink 60 to 240 mL (2-8 oz.) of water. and DO NOT induce vomiting. Get medical aid.

### **(b) Most important symptoms/effects, acute and delayed**

Contact with internal components may cause allergic skin sensitization (rash) and irritate eyes, skin, nose, throat, respiratory system. Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

### **(c) Immediate medical attention and special treatment**

No information available.

## 5. Fire-fighting measures

### **(a) Extinguishing media**

- Suitable extinguishing media: Use foam, dry powder or dry sand, CO<sub>2</sub> as appropriate.
- Unsuitable extinguishing media: No information available.

### **(b) Special hazards arising from the chemical**

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation. This could result in the release of flammable or corrosive materials. Hazardous combustion products: CO, CO<sub>2</sub>, Metal oxides, Irritating fumes



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## ***(c) Special protective equipment and precautions for fire-fighters***

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

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## **6. Accidental release measures**

### ***(a) Personal precautions, protective equipment and emergency procedures***

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

### ***(b) Methods and materials for containment and cleaning up***

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

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## **7. Handling and storage**

### ***(a) Precautions for safe handling***

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.

### ***(b) Conditions for safe storage, including any incompatibilities***

Don't handling Alkaline Battery with metalwork. Do not open, disassemble, crush or burn battery. Ensure good ventilation/ exhaustion at the workplace.

Prevent formation of dust.

Information about protection against explosions and fires: Keep ignition sources away- Do not smoke.

Recommended at 0°C~+35°C for long period storage.

Do not storage Alkaline Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.

Keep out of reach of children.

Do not expose Alkaline Battery to heat or fire. Avoid storage in direct sunlight.

Do not store together with oxidizing and acidic materials.

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## **8. Exposure controls/personal protection**

### ***(a) Control parameters***

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Not established.

## **(b) Appropriate engineering controls**

Under normal conditions (during charge and discharge) release of ingredients does not occur.

## **(c) Personal protective equipment**

Respiratory protection:

No personal respiratory protective equipment normally required. In case of inadequate ventilation wear respiratory protection.

Hand protection:

Wear protective gloves.

Eye/face protection:

No personal protective equipment normally required.

Skin/body protection:

Wear protective clothing to prevent contact.

## 9. Physical and chemical properties

<b>(a) Appearance</b>	Cylindrical solid
<b>(b) Odor</b>	Monotony
<b>(c) Odor threshold</b>	Not available.
<b>(d) pH</b>	Not available.
<b>(e) Melting point/freezing point</b>	Not available.
<b>(f) Initial boiling point and boiling range</b>	Not available.
<b>(g) Flash point</b>	Not applicable.
<b>(h) Evaporation rate</b>	Not applicable.
<b>(i) Flammability</b>	Non flammable.
<b>(j) Upper/lower flammability or explosive limits</b>	Not available.
<b>(k) Vapor pressure</b>	Not applicable.
<b>(l) Vapor density</b>	Not available.
<b>(m) Relative density</b>	Not available.
<b>(n) Solubility(ies)</b>	Insoluble in water.
<b>(o) Partition coefficient: n-octanol/water</b>	Not available.
<b>(p) Auto-ignition temperature</b>	130°C
<b>(q) Decomposition temperature</b>	Not available.
<b>(r) Viscosity</b>	Not available.

## 10. Stability and reactivity

### **(a) Reactivity**

Stable under recommended storage and handling conditions.

### **(b) Chemical stability**

Stable under normal conditions.

### **(c) Possibility of hazardous reactions**

When heated above 150°C the risk of rupture occurs. Due to special safety construction, rupture implies controlled release of pressure without ignition.

### **(d) Conditions to avoid**

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Do not subject Alkaline Battery to mechanical shock. Keep away from open flames, high temperature.

**(e) Incompatible materials**

Strong oxidizer, strong acid.

**(f) Hazardous decomposition products**

Under fire conditions, the electrode materials can form carcinogenic nickel and cobalt oxides.

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## 11. Toxicological information

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**(a) Information on the likely routes of exposure**

Inhalation:	Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.
Ingestion:	Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.
Skin contact:	Contact with battery electrolyte may cause burns and skin irritation.
Eye contact:	Contact with battery electrolyte may cause burns. Eye damage is possible.

Under normal conditions (during charge and discharge) release of ingredients does not occur. If accidental release occurs see information in section 2, 3, and 4. Swallowing of a battery can be harmful. Call the local Poison Control Centre for advice and follow-up.

**(b) Information on toxicological characteristics**

<b>Acute toxicity:</b>	No data available.
<b>Skin corrosion/irritation:</b>	The liquid in the battery irritates.
<b>Serious eye damage/irritation:</b>	The liquid in the battery irritates.
<b>Respiratory sensitization:</b>	The liquid in the battery may cause sensitization to some person.
<b>skin sensitization:</b>	The liquid in the battery may cause sensitization to some person.
<b>Carcinogenicity:</b>	Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).
<b>Germ Cell Mutagenicity:</b>	No data available.
<b>Reproductive Toxicity:</b>	No data available.
<b>STOT-Single Exposure:</b>	No data available.
<b>STOT-Repeated Exposure:</b>	No data available.
<b>Aspiration Hazard:</b>	No data available.

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## 12. Ecological information

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**(a) Ecotoxicity**

Water hazard class 1(Self-assessment): slightly hazardous for water.

**(b) Persistence and Degradability**

No information available.

**(c) Bioaccumulative potential**

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No information available.

**(d) Mobility in soil**

No information available.

**(e) Other adverse effects**

No information available.

## 13. Disposal considerations

**(a) Safe handling and methods of disposal**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Local regulations may be more stringent than regional or national requirements.

## 14. Transport information

According to PACKING INSTRUCTION 965 ~ 970 of IATA DGR 56rd Edition for transportation, the special provision 188 of IMDG (inc Amdt 35-10). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stopovers, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area. Forbid to use wooden, cement for bulk transport.

<b>(a) UN number</b>	3480&3481
<b>(b) UN Proper shipping name</b>	LITHIUM ION BATTERIES (including lithium ion polymer batteries) or; LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)
<b>(c) Transport hazard class(es)</b>	9
<b>(d) Packing group (if applicable)</b>	II
<b>(e) Marine pollutant (Yes/No)</b>	No
<b>(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)</b>	No information available.
<b>(g) Special precautions</b>	No information available.

## 15. Regulatory information

**(a) Safety, health and environmental regulations specific for the product in question**

CAS No.	USA TSCA	EU EINECS	Japan ENCS	Korea ECL	China IECSC	Canada DSL
7439-89-6	Listed	Listed	Listed	Listed	Listed	Not listed

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1313-13-9	Listed	Listed	Listed	Listed	Listed	Listed
7782-42-5	Listed	Listed	Not listed	Listed	Listed	Listed
1310-58-3	Listed	Not listed	Listed	Not listed	Listed	Not listed
7732-18-5	Listed	Listed	Listed	Listed	Listed	Not listed
7440-66-6	Listed	Listed	Not listed	Listed	Listed	Not listed
20661-21-6	Listed	Listed	Listed	Not listed	Listed	Not listed
1314-13-2	Listed	Not listed	Listed	Listed	Listed	Not listed

## 16. Other information, including date of preparation or last revision

### *(a) Preparation and revision information*

Date of previous revision: Not applicable.

Date of this revision: 06/03/2015

Revision summary: The first New SDS

### *(b) Abbreviations and acronyms*

TSCA: Toxic Substances Control Act, The American chemical inventory.  
DSL Domestic Substances List  
EINECS: European Inventory of Existing Commercial chemical Substances  
ENCS Japanese Existing and New Chemical Substances  
ECL: Existing Chemicals List, the Korean chemical inventory.  
IECSC: Inventory of existing chemical substances in China.

### *(c) Disclaimer*

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

----- End of the SDS -----