

# SAFETY DATA SHEET

Issuing Date 27-Sep-2019

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Revision Number 1

Canada / English

## 1. IDENTIFICATION

### Product identifier

**Product Name** 3V Lithium Manganese Button Battery (Model: CR2032)

### Other means of identification

**Product Code(s)** 1541255

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

**Recommended Use** Lithium Primary/Metal Batteries

**Restrictions on use** No information available

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

**Initial supplier identifier** Multire Warditd Lithium Power Technology Ltd.(Dongguan)

**Address** Tingshan Industrial Park, Houjie Town, Dongguan City, China

**Telephone** +86-18825536816

**E-mail** 2880142511@qq.com

### Emergency telephone number

**Company Emergency Phone Number** 0769-85880399

## 2. HAZARDS IDENTIFICATION

### Classification

This is a battery. In case of rupture:.

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2

Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B

**GHS Label elements, including precautionary statements**

**Danger**

**Hazard statements**

This is a battery. In case of rupture:.

Harmful if swallowed

Toxic if inhaled

Causes skin irritation

Causes serious eye damage

May damage fertility or the unborn child



**Precautionary Statements - Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

**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

Immediately call a POISON CENTER or doctor

**Skin**

IF ON SKIN: Wash with plenty of water and soap

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

#### Precautionary Statements - Storage

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

#### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

#### Other information

Harmful to aquatic life with long lasting effects Harmful to aquatic life

**Unknown acute toxicity** 102.4 % of the mixture consists of ingredient(s) of unknown toxicity

30.1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

102.4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable.

#### Mixture

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Manganese dioxide	1313-13-9	41.1	-	-
Lithium	7439-93-2	2.31	-	-
Iron	7439-89-6	45.29	-	-
1,2-Propanediolcyclic carbonate	108-32-7	3.8	-	-
1,3-Dioxolane	646-06-0	3.7	-	-
Lithium Perchlorate	7791-03-9	3.8	-	-

### 4. FIRST AID MEASURES

#### First aid measures

##### General advice

First aid is upon rupture of sealed battery. Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

##### Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

<b>Eye contact</b>	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information.

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

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

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

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Hazardous Combustion Products</b>	Carbon oxides.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

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

personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other Information**

Refer to protective measures listed in Sections 7 and 8.

**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**

**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Do not breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits**

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Supplier Trade Secret	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 0.02 mg/m <sup>3</sup>	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>
Supplier Trade Secret	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>
Supplier Trade Secret			TWA: 5 ppm TWA: 18 mg/m <sup>3</sup> Skin	
Supplier Trade Secret	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>
Supplier Trade Secret	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

**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).

**Appropriate engineering controls**

**Engineering controls**

Showers  
Eyewash stations

Ventilation systems.

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

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Do not breathe dust. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Physical and Chemical Properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Silver
<b>Odor</b>	No information available
<b>Color</b>	No information available
<b>Odor Threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>		None known	
<b>Upper flammability limit</b>	No data available		
<b>Lower flammability limit</b>	No data available		
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water Solubility</b>	Insoluble in water		
<b>Solubility(ies)</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available		
<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>	No data available	None known	

#### **Other Information**

<b>Explosive properties</b>	No information available.
<b>Oxidizing properties</b>	No information available.
<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available

VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

## 10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal 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 bases. Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Product Information	In case of rupture:
Inhalation	Specific test data for the substance or mixture is not available. Toxic by inhalation. (based on components). May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Severely irritating to eyes. Causes serious eye damage. (based on components). May cause burns. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Information on toxicological effects

Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.
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### Numerical measures of toxicity

#### Acute Toxicity

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

ATEmix (oral)	508.70 mg/kg
ATEmix (dermal)	15,873.00 mg/kg

ATEmix (inhalation-gas)	3,368.50 ppm
ATEmix (inhalation-dust/mist)	1.12 mg/L
ATEmix (inhalation-vapor)	8.23 mg/L

**Unknown acute toxicity** 102.4 % of the mixture consists of ingredient(s) of unknown toxicity  
 30.1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 102.4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 74.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Supplier Trade Secret	= 30 g/kg ( Rat )	-	-
Supplier Trade Secret	= 9000 mg/kg ( Rat )	-	> 1500 mg/m <sup>3</sup> ( Rat ) 4 h
Supplier Trade Secret	= 29000 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	-
Supplier Trade Secret	-	-	> 2000 mg/m <sup>3</sup> ( Rat ) 4 h
Supplier Trade Secret	> 4000 mg/kg ( Rat ) = 775 mg/kg ( Rat )	1000 - 2000 mg/kg ( Rabbit )	20 - 63 mg/L ( Rat ) 6 h

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

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	-	-

**Legend**

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Harmful to aquatic life with long lasting effects. .
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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: = 5300 mg/L (Leuciscus idus) 96h LC50: > 1000 mg/L (Cyprinus carpio)	EC50 > 10000 mg/L 17 h	48h EC50: > 500 mg/L
Supplier Trade Secret	-	96h LC50: > 100 mg/L (Danio rerio)	-	-

**Persistence and Degradability** No information available.

**Bioaccumulation**

#### Component Information

Chemical name	Log Pow
Supplier Trade Secret	<0
Supplier Trade Secret	0.48

**Mobility** No information available.

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 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"

**TDG** Not regulated

**DOT** NOT REGULATED

Proper Shipping Name	NON-REGULATED
Emergency Response Guide Number	138
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
<u>IMDG/IMO</u>	Not regulated
Proper Shipping Name	NON-REGULATED PER SP 188
Hazard Class	N/A
EmS-No.	F-A, S-I
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

#### International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

## 16. OTHER INFORMATION

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<b>NFPA</b>	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties -
<b>HMIS</b>	Health hazards 1 *	Flammability 0	Physical hazards 0	Personal Protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Issued by:

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Prepare by:

Andre Yu



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Revision Note

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**