

## SAFETY DATA SHEET

### 1. Product and Company Identification

**Product Category:** Lithium Manganese Dioxide Primary Battery, Nonrechargeable

**Nominal Voltage:** 3.6 V

**Product Name**

Type	Lithium (gr.)	Type	Lithium (gr.)
<b>CR123A</b>	<b>0.49</b>	<b>CR17335E-R</b>	<b>0.60</b>
<b>CR2</b>	<b>0.30</b>	<b>CR17450E-R</b>	<b>0.99</b>
<b>CR14505</b>	<b>0.56</b>	<b>CR-P2</b>	<b>0.98</b>
<b>CR17450</b>	<b>0.74</b>	<b>2CR5</b>	<b>0.98</b>
<b>CR14250</b>	<b>0.30</b>	<b>CR-V3</b>	<b>1.12</b>
<b>CR17335</b>	<b>0.49</b>		

**Supplier's Name:** Tenergy Corporation

**Supplier's Address:** 436 Kato Terrace, Fremont, CA 94539, United States

**Post Code:** 94539

**Telephone:** (510)687-0388

**Fax:** (510)687-0328

**Note:** The battery is neither substance nor mixture but product and having no risk to life and health under normal use or transportation because ingredients of battery is not leaked out by virtue of hermetical sealing with metal case.

This sheet notifies possible risk of our battery under abnormal use but mainly aim to provide information about ingredients, notification of handling and transportation regulations as a useful reference.

### 2. Hazards identification

The important hazards and adverse effects of the chemical product	No information available
Chemical product – specific hazards	No information available
Outline of an anticipated emergency	Chemical contents are seal in metal can. Therefore, risk of exposure never occurs unless battery is mechanically or electrically abused. Risk of explosion by fire is anticipated if batteries are dispose of in fire or heated above 100 degree Celsius. Stacking or jumbling of batteries may cause external short circuits, heat generation, in some case, allowing fire or explosion.

**Note: our battery is not classified in accordance with the GHS classification.**

### 3. Composition/Information on Ingredient

Material	CAS#	% wt.
Manganese Dioxide	1313-13-9	20 ~ 40
Lithium metal	7439-93-2	1 ~ 6
Electrolyte (Mixture of organic solvent)	-	8 ~ 16

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### 4. First-aid measures

Inhalation	If ingredient leaked out from inside of a battery and if inhaled it, move to a place where fresh air is provided. Refer for medical attention.
Skin contact	If ingredient leaked out from inside of a battery and stuck on skin, wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin. Refer for medical attention.
Eyes contact	If ingredient leaked out from inside of a battery and came into eyes, flush the eyes with plenty of water for at least 15 minutes immediately without rubbing. Take a medical treatment. If appropriate procedures are not taken, this may cause an eye irritation.
Swallowing	In case of swallowing of battery, immediately refer for medical attention.

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### 5. Fire-fighting Measures

**Fire extinguishing agent:**

Dry chemical, alcohol-resistant foam, powder, atomized water, carbon dioxide and dry sand are effective.

**Extinguishing method:**

Escape batteries to safe place prevent from ignition by spreading fire.

Because of packing material of battery is paper, use water extinguisher, CO<sub>2</sub> extinguisher or powder extinguisher as normal extinguisher.

Since vapor, generated from burning batteries may make eyes, nose and throat irritate, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases.

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### 6. Accidental Release Measures

Chemical contents are sealed in metal can. But if the battery is mechanically or electrically abused, contents may leak out. In such case, take action as shown below.

**Personal precautions:** Temporary inhalation of odor and attaching of electrolyte to skin does not cause serious health hazard. Be sure the ventilation and washing out of electrolyte quickly.

**Environmental precautions:** Clean up it quickly. Specific environmental precaution is not necessary.

**Method and materials for containment and methods and materials for cleaning up:**

Contain and collect spillage and place in container for disposal according to local regulations.

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## 7. Handling and Storage

Handling	Do not charge, short-circuit, disassemble, deform, heat above 100°C or incinerate. Do not pile up or mingle battery with each other. Do not place battery on metal case, metal plate or antistatic material. In case of multi cell application, replace all batteries to new at once when replacing used batteries.
Storage	Be sure to store batteries in well-ventilated, dry and cool conditions. Keep away from water, rain, snow, frost or dew condensation. Do not store batteries near source of heat or nozzle of hot air. Do not store batteries in direct sunshine. Take care not to get wet packing by dew condensation when packing is removed from cold to warm and humid condition. Enough number of fire fighting apparatuses should be installed in warehouse

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## 8. Exposure Controls and Personal Protection

There is no need of personal protective equipment on regular handling and storage. In the event, however, a large amount of electrolyte should be released by mechanical or electrical abuse, use the protection as shown below.

Respiratory protection: Mask (with a filter preferably)

Hand protection : Synthetic rubber gloves

Eye protection : Goggles or glasses

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## 9. Physical and Chemical Properties

State: Solid

Shape: Cylindrical、Prismatic

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## 10. Stability and Reactivity

Stability: Stable on regular handling

Conditions to Avoid: External short circuit of battery, deformation by crush, exposure at high temperature of more than 100 degree C (may cause heat generation and ignition), direct sunlight, high humidity.

Materials to avoid: Substances that cause short circuit.

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## 11. Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

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## 12. Ecological Information

Persistence and degradability	No information available
Mobility in soil	No information available

## 13. Disposal Considerations

Dispose of batteries in accordance with applicable federal, state and local regulations.

For safety precaution, battery should be insulated in proper manner; covering both terminals by tape, wrapping of battery in insulative bag or packing battery in original package is recommended in order to prevent ignition due to short-circuit.

## 14. Transport Information

Persons who prepare or offer lithium batteries for transport are required by regulation to be trained and certified. The information provided below is for informational purposes only.

Tenergy's lithium metal batteries are considered non-dangerous goods by the International Civil Aviation Organization(ICAO) and the International Air Transport Association (IATA DGR 57th edition, 2016) because they meet all requirements of Packing Instructions (Part1 of PI968).We further certify that the enclosed product has been tested & fulfilled requirements and conditions in accordance with UN Recommendations on Transport of Dangerous Goods Manual of Tests and Criteria 38.3 Lithium batteries(UN3090) that can be treated as 'Non-Dangerous Goods' and is not restricted for safe for air transportation. Separate Lithium batteries when shipping to prevent short-circuit. They should be packed in strong packaging for support during transport. The following label will be pasted on each carton:



### Passenger Aircraft Ban (for batteries only)

Effective December 29, 2004, all primary lithium batteries are banned as on passenger aircraft. In addition to rule requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement: **"PRIMARY LITHIUM BATTERIES-FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT"**.

**15. Regulatory Information**

Environment-related law of batteries: EU nations have applicable law in accordance with Directive 2006/66/EC and other some countries, China, Korea, Brazil, some provinces of USA and Canada or so have similar law.

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**16. Other information****Revision Information:**

Date of this revision: 2016.2.01

**Training advice:**

Provide adequate information, instruction and training for operators.

**Abbreviations and acronyms:**

GHS:	Globally Harmonized System of Classification Labeling of Chemicals.
CAS:	Chemical Abstracts Service registration number.
NIOSH:	US National Institute for Occupational Safety and Health
OSHA:	US Occupational Safety and Health
LD50:	Lethal Dose, 50 percent kill
ITAT	International Air Transport Association
IMDG:	International Maritime Dangerous Goods
TSCA:	Toxic Substances Control Act,
IECSC:	Inventory of existing chemical substances in China