

## SAFETY DATA SHEET (SDS)

### SECTION 1: Product and Company Identification

<b>Product Name</b>	<u>Silver Oxide Battery (Mercury Free)</u>
Model Name:	SR Battery (0%Hg) all types
Brand:	SEIZAIKEN
Nominal Voltage:	1.55 V
<b>Manufacturer</b>	Seiko Instruments Inc. Micro-Energy Division
Address:	45-1, Aza Matsubara, Kamiyashi, Aoba-ku, Sendai-shi, Miyagi, Japan
Telephone:	+81-22-391-9331 Facsimile: +81-22-391-9330
<b>Seller</b>	Seiko Instruments Inc. Micro-Energy Division Sales Department
Address:	8, Nakase 1-chome, Mihama-ku, Chiba-shi, Chiba, Japan
Telephone:	+81-43-211-1735 Facsimile: +81-43-211-8034
<b>Emergency Contact</b>	Seiko Instruments Inc. Quality Assurance Office
Telephone:	+81-22-391-9331

### SECTION 2: Hazards Identification

<b>GHS Classification</b>	Not applicable
Effects to Human body	When swallowed, the battery can melt, and it might cause inflammation in stomach or intestine.
Possibility of Fire ignition	There is not a fire ignition by opening the battery can. Short might make fire ignition peripheral flammable materials.

### SECTION 3: Composition/Information on Ingredients

<b>Substance/Preparation</b>	Article
<b>Important Note</b>	The battery should not be opened or burned, because the following ingredients listed below are contained in it. Its post-discharge or its combustion products could be harmful.

#### Materials or Ingredients

Part Name	Material Name	CAS No.	Content (wt%)
Anode	Zinc	7440-66-6	2 to 15
	Mercury	7439-97-6	Not used
Cathode	Silver Oxide	20667-12-3	15 to 40
	Manganese Dioxide	1313-13-9	1 to 10
Electrolyte	Sodium Hydroxide	1310-73-2	5 to 8
	or Potassium Hydroxide	1310-58-3	1 to 15

## SECTION 4: First Aid Measures

If leaked liquid, alkaline, observe the following instructions:

Inhalation:	Fumes can cause respiratory irritation. Ensure the person has fresh air and consult a physician.
Skin:	Immediately wash the skin with plenty of water. If itchiness or irritation due to chemical burns persists, consult a physician.
Eyes:	Immediately wash the skin with plenty of water. If itchiness or irritation due to chemical burns persists, consult a physician.
Ingestion:	If a battery is swallowed, consult a physician immediately. If the contents come into contact with the mouth, immediately rinse with water and consult a physician.

## SECTION 5: Fire Fighting Measures

**How to Extinguish** Water, Any class of extinguisher is effective.

Keep away the battery from heat sources to avoid a fire. Please do not expose the battery to very high temperature to prevent an explosion and the generation of harmful gas.

## SECTION 6: Accidental Release Measures

N/A (Not Applicable)

## SECTION 7: Handling and Storage

<b>Handling</b>	<p>Do not heat, disassemble nor dispose of in fire.</p> <p>Do not reverse placement of (+) and (-).</p> <p>Do not short and charge.</p> <p>Do not solder directly to the battery.</p> <p>Do not use new and used batteries together. Do not use different types of batteries together.</p> <p>Do not use nor leave the batteries in direct sunlight nor in high-temperature areas.</p> <p>Avoid letting battery contact water.</p> <p>Make sure to insert batteries without having (+) and (-) come in contact with metal parts of equipment.</p> <p>Remove batteries from the equipment, if finished using. Do not leave batteries connecting with equipment after using.</p>
<b>Storage</b>	<p>Keep batteries out of children's reach.</p> <p>Keep batteries away from direct sunlight, high temperature and humidity.</p>

## SECTION 8: Exposure Controls / Personal Protection

The capacitor is sealed with a metal can in order to avoid leakage of harmful gas or liquid. Follow the instructions in the SECTION 7.

Respiratory Protection:	N/A
Protective Gloves:	N/A
Eye Protection:	N/A
Skin or Body Protection:	N/A

**SECTION 9: Physical and Chemical Properties**

<b>Shape</b>	Button battery
<b>Chemical System</b>	Silver Oxide / Zinc
<b>Rechargeable</b>	YES / (NO)

**SECTION 10: Stability and Reactivity**

Stability:	Stable
Condition to Avoid:	See section 7
Hazardous Mixture:	N/A
Hazardous Decomposition or Byproducts:	N/A

**SECTION 11: Toxicological Information**

The battery does not include mercury.

**SECTION 12: Ecological Information**

It is non-mercury battery. It has almost no influence on environment.

**SECTION 13: Disposal Considerations**

Please see EU Directive 2006/66/EC. These batteries must recycle. Dispose of the battery in accordance with the respective national, federal, state, and local regulations.

**SECTION 14: Transport Information**

Our silver oxide battery is not classified dangerous goods by International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), International Maritime Dangerous Goods Regulations (IMDG), U.S. Department of Transportation (DOT).

It can be transported by air and sea usually.

Please pack it in a container which can prevent any damage by high humidity and high temperature. Please handle the battery so that it is not damaged while transporting.

The batteries are not classified as dangerous under Special Provision A123 of the IATA Dangerous Goods Regulations 55th edition 2014.

The international Maritime Dangerous Goods Code (IMDG) regulate them for ocean transportation under Special Provision 304 which says : Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the requirements of ADR provided the batteries are securely packed and protected against short-circuits.

**SECTION 15: Regulatory Information**

Directive 2006/66/EC

Directive 2011/65/EC : RoHS

**SECTION 16: Other Information**

SDS is not applied to products that are used in a sealed condition. So, we do not have the obligation to publish this document since the battery corresponds to the condition above. But, we offer this document for reference. The data and evaluation results written on this document was known at the time of preparation, but it is not something that is guaranteed.

End of Documents