

SAFETY DATA SHEET (SDS)

SECTION 1: Product and Company Identification

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

SECTION 2: Hazards Identification

GHS Classification	Not applicable
Effects to Human body	When time has passed since battery was swallowed, it might cause inflammation in esophagus, 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

Substance/Preparation Article

Important Note The battery should not be opened or burned, because the following ingredients listed below are contained in it. It may generate gas.

Main Materials or Main 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 15
Electrolyte	Sodium Hydroxide	1310-73-2	3 to 10
	or Potassium Hydroxide	1310-58-3	1 to 20

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 get a medical treatment immediately.
Skin:	Immediately wash the skin with plenty of water. If itchiness or irritation due to chemical burns persists and get a medical treatment immediately.
Eyes:	Immediately rinse the eye with plenty of water and get a medical treatment.
Ingestion:	If a battery is swallowed, get a medical treatment immediately. If the contents come into mouth, immediately rinse mouth thoroughly with water, and get a medical treatment.

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

If liquid (electrolyte) leaks from the battery, wipe off the liquid with a waste clothes, please move to a place with good ventilation.

SECTION 7: Handling and Storage

Handling	<p>Do not heat, disassemble nor dispose of in fire.</p> <p>Do not reverse placement of (+) and (-).</p> <p>Do not short circuit or 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>
Storage	<p>Keep batteries out of children's reach.</p> <p>Please keep the batteries in dry state. Do not get it wet with water etc.</p> <p>Keep batteries away from direct sunlight, high temperature and humidity.</p>

SECTION 8: Exposure Controls / Personal Protection

The battery is sealed with a metal can in order to avoid leakage of harmful gas or liquid. When handling in accordance with the preceding paragraph, usually no protective equipment is required. Wear protective equipment when liquid (electrolytic solution) leaks from the main body.

Respiratory Protection:	Protective mask with a filter preferably
Protective Gloves:	Safety gloves
Eye Protection:	Safety goggles and/or glasses for chemicals

[Silver Oxide Battery (Mercury Free)]

SECTION 9: Physical and Chemical Properties

Shape	Button battery
Chemical System	Silver Oxide / Zinc
Rechargeable	YES / <input checked="" type="radio"/> NO

SECTION 10: Stability and Reactivity

Stability:	Stable at normal handling
Condition to Avoid:	See SECTION 7

SECTION 11: Toxicological Information

This battery does not include mercury.

When normal handling, this battery is not noxious to the human body because the content sealed with cases.

SECTION 12: Ecological Information

It is non-mercury battery. There is no ecological information particularly.

*It is reported that batteries leaked almost no metal ingredients even if buried in the ground.

SECTION 13: Disposal Considerations

Please see EU Battery Directive : Directive 2006/66/EC and 2013/56/EU. 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), U.S. Department of Transportation (DOT), International Maritime Organization(IMO).

It can be transported by aircraft or ship 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.

Silver oxide battery is not classified as dangerous under the IATA Dangerous Goods Regulations 62nd edition, also our battery is comply with the special provision A123, because for effective packaging to prevent external short circuit.

SECTION 15: Regulatory Information

•EU Battery Directive : Directive 2006/66/EC and Directive 2013/56/EU

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