

Silver Oxide Batteries

High Drain Watch Batteries

Product Safety Data Sheet

Disclaimer:

The batteries are exempt articles and are not subject to hazard Communication Standard Requirement. This sheet is provided as technical information only. The information contained in this Product Safety Data Sheet has been established to the best of RENATA SA's knowledge and belief. RENATA SA makes no representation and provides no warranty or guarantee regarding the contents of this Product Safety Data Sheet and excludes its liability, express or implied.

Section 1 – Product & Company Information

Product Name: **Primary High Drain silver Oxide Watch Batteries**
 Nominal Voltage: 1.55V
 Electrochemical System: Zinc/KOH Electrolyte/Silver Oxide
 Sizes: See section 2
 Date of Preparation: August 08, 2008
 Company: RENATA SA
 Telephone Number: +41 61 975 75 75
 Address: CH 4452 Itingen, Switzerland
 Fax Number: +41 61 975 75 95

Section 2 – Composition/Information on Ingredients

Ingredients* (new battery)

	Name	CAS Nr.	Content % of Total Weight
Cathode:	Silver Oxide (Ag ₂ O)	20667-12-3	24-38
	Manganese dioxide (MnO ₂)	1313-13-9	2-16
	Graphite (C)	7782-42-5	0.3-2
Anode:	Zink powder (Zn)	7440-66-6	8-12
	Mercury (Hg)	7439-97-6	0.2-0.5
Electrolyte:	Potassium hydroxide (KOH)	1310-58-3	1-4

* Models: 376, 361, 396, 392, 393, 370, 399, 380, 391, 389, 350, 386, 357

Section 3 – Hazardous identification

These chemicals are contained in a sealed can.

Risk of exposure occurs, only if battery is mechanically, thermally or electrically abused, skin or eye contact with the contents of an opened battery should be avoided.

Skin contact with the contents of an opened battery can cause irritation and/or chemical burns.

Eye contact with the contents of an opened battery can cause severe irritation and chemical burns.

Ingestion of a battery can be harmful.

Please strictly observe safety instructions.

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Section 4 – First Aid Measure

None unless internal material exposure.

If contact with internal components, observe following instructions

Swallowing:

Ingestion of a battery can be harmful. Contents of an opened battery can cause serious chemical burns of mouth, oesophagus, and gastrointestinal tract. Drink a plenty of water. Do not induce vomiting. Consult a physician immediately.

Inhalation: Fumes of alkaline solution can cause respiratory irritation. Provide fresh air and consult a physician.

Skin Contact: Contents of an opened battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, consult a physician.

Eye Contact: Contents of an opened battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes. Consult a physician immediately.

Section 5 – Fire Fighting Measures

When exposed to fire, battery may emit hazardous fumes of alkaline and mercury.

Refer to "inhalation" in section 4.

Extinguishing Media:

Any class of extinguisher is effective.

Fire fighting procedure:

Use self-contained breathing apparatus and full gear not to inhale or that eyes or skin come in contact with harmful alkaline mist.

Section 6 – Accidental Release Measures

Damaged Battery should be handled with rubber gloves, avoid direct contact with internal components.

Section 7 – Handling and Storage

Handling:

Avoid mechanical, thermal or electrical abuse.

Keep out the reach of children, never swallow.

Never touch the liquid leaked out battery.

Never short-circuit, force discharge, charge, overheat, dispose in fire, deform, dismantle; the battery may vent, explode or leak.

Storage:

Never store the battery in hot and high humid place. Avoid direct solar radiation, do not store next to heaters. Never let the battery contact with water. Do not store in disorderly fashion or allow metal parts to be mixed with stored batteries.

Section 8 – Exposure Controls, Personal Protection

Respiratory Protection: NA

Ventilation Local Exhaust / Mechanical / Special / Other: NA

Eye Protection: NA

Protective Gloves: NA

Other Protective Clothing: NA

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Section 9 – Physical / Chemical Characteristics

NA if the battery is not opened

Section 10 – Stability and Reactivity

<u>Stability:</u>	Stable
<u>Incompatibility:</u>	NA
<u>Hazardous Polymerization:</u>	NA
<u>Condition to Avoid:</u>	See section 7
<u>Hazardous Decomposition or Byproducts:</u>	NA

Section 11 – Toxicological Information

NA

Section 12 – Ecological Information

NA

Section 13 – Disposal Condition

Be sure to comply with your federal, state and local regulation regarding disposal of used batteries. Please follow the instructions of proper regulation.

As electric capacity can be left in a discarded battery and it comes into contact with other metals, it could lead to distortion, leakage, overheating, or rupture, so make sure to cover the (+) or (-) terminals with electrical or adhesive tape or some other insulator before disposal.

Section 14 – Transportation Information

These batteries are not considered as "dangerous goods" per IATA "Dry" batteries, such as alkaline, nickel metal hydride, nickel cadmium, and carbon zinc, generally are recognized as being excepted from the U.S. and international hazardous materials regulations provided they are packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits.

There is no official definition of what constitutes a "dry" battery. However, the U.S. DOT has issued numerous interpretation letters over the years that clearly recognize nickel metal hydride and nickel cadmium batteries as "dry" batteries. (See <http://hazmat.dot.gov/regs/rules.htm>.) Therefore, the overriding provisions that govern shipments of dry batteries are Special Provision 130 and 49 CFR 173.21(c) in the U.S. hazardous materials regulations. Any person that offers dry batteries or products containing dry batteries to a carrier that does not comply with Special Provisions 130 or 49 CFR 173.21(c) (Electrical devices which are likely to create sparks or generate a dangerous quantity of heat, unless packaged in a manner which precludes such an occurrence.) may be subject to civil penalties.

Section 15 – Regulatory Information

The batteries are in accordance with the directive 2006/66/EC

Section 16 – Other Information

If you need further information, please contact (Renata) sales representative.