

Silver Oxide Batteries

Low 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 Low Drain silver Oxide Watch Batteries**
 Nominal Voltage: 1.55V
 Electrochemical System: Zinc/NaOH Electrolyte/Silver Oxide
 Sizes / Models: See section 2
 Date of Preparation: November 2009
 Company: RENATA SA
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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	14 - 43
	Manganese dioxide (MnO ₂)	1313-13-9	1 - 13
	Graphite (C)	7782-42-5	0.3- 2
Anode:	Zink powder (Zn)	7440-66-6	4 - 14
	Mercury (Hg)	7439-97-6	0.2 - 0.8
Electrolyte:	Sodium hydroxide (NaOH)	1310-73-2	1 - 6

* Models: 337, 335, 317, 379, 319, 339, 321, 364, 377, 346, 341, 362, 397, 329, 384, 309, 373, 371, 395, 394, 365, 366, 381, 390, 344, 301, 303

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

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in “strong outer packaging” that prevents spillage of contents. All original packaging for RENATA silver oxide batteries has been designed to be compliant with these regulatory concerns.

Silver oxide batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR).

These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	295 - 304, 598
IMDG	UN 3028 Provisions 295 - 304
UN	UN 3028 Provisions 295 - 304
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	UN 3028 Provisions 295 - 304

All RENATA silver oxide batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

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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.