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Safety Data Sheet

Note: SDS does not apply to sealed products. Since the batteries are in a sealed condition during normal transportation and use, the information contained herein is provided for reference purposes only. The information contained in this Product Safety Data Sheet is for safety purposes only and is provided in good faith based on all knowledge and experience of the Company at the time of publication. However, we assume no responsibility whatsoever for any harm to the human body or damage to goods or property that may result from the use of this product for any purpose other than that for which it was intended.

1. Product and Company Information

Product name	silver oxide battery
Model name	SR416SW, SR421SW, SR512SW, SR516SW, SR521SW, SR527SW, SR616SW, SR621, SR621W, SR621SW, SR626, SR626W, SR626SW, SR712SW, SR714SW, SR716SW, SR721, SR721W, SR721SW, SR726, SR726W, SR726SW, SR731SW, SR41, SR41W, SR41SW, SR48, SR48W, SR916SW, SR920, SR920W, SR920SW, SR927, SR927R, SR927W, SR927SW, SR936, SR936W, SR936SW, SR1116, SR1116W, SR1120, SR1130, SR1130SW, SR43, SR44, SR44R
Brand	murata
Company	Tohoku Murata Manufacturing Co.
address	1-1, Aza-Sugishita, Takakura, Hiwadacho, Koriyama-shi, Fukushima 963-0531
Contact	TEL 024-955-7770 FAX 024-955-7884
Emergency Contact	+1(703)527-3887 (CHEMTREC)
Email Address	tmm-qa-compliance@murata.com
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issuing department	Business Quality Assurance Department 3, Tohoku Murata Manufacturing Co.
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2. Hazard Summary

Significant Hazards	No applicable information	
Specific hazards	No applicable information	
Overview of Potential Emergency Situations	danger	The chemical components are hermetically sealed inside the battery can. However, if the battery is mechanically or electrically mishandled, electrolyte inside the battery may leak out. In particular, corrosive alkaline electrolyte can be highly dangerous if it leaks and gets on the skin or in the eyes.
	harmfulness	If the battery burns, the vapors generated may irritate the eyes, skin, and throat.

3. Composition and Ingredient Information

location	Composition	CAS No.	Composition
Cathode material	silver oxide	20667-12-3	7~45wt%
	manganese dioxide (MnO ₂)	1313-13-9	0~25wt%
Negative Material	Powdered zinc	7440-66-6	4~12wt%
electrolyte	Potassium hydroxide (KOH)	1310-58-3	1~6wt%
	Sodium hydroxide (NaOH)	1310-73-2	
Other	These batteries do not contain heavy metals such as mercury, cadmium, or lead.		

4. emergency measure

time of swallowing	Consult a physician immediately to avoid the risk of chemical burns to mucous membranes. Do not give food or drink.
When adhering to skin	If the components in the battery leak and adhere to the skin, the skin feels irritation, may cause further chemical burns. Remove soiled clothing and wash skin with plenty of water. If chemical burns occur or skin irritation persists, consult a physician.
When adhering to the eye	If the components in the battery leak and get into the eye, it may cause severe irritation and chemical burns. Immediately flush with plenty of water for several minutes (preferably with contact lenses removed) and take to a physician.
Attractive	If components in the battery leak and are inhaled, respiratory irritation may be felt. Provide fresh air. Consult a physician.
If it gets in your mouth	If components in the battery leak and enter the mouth, chemical burns of the mouth, esophagus, and gastrointestinal system may occur. Rinse out mouth. Do not force vomiting. Consult a physician.

5. Information on fire response

fire extinguisher	In case of fire, any extinguishing agent or water may be used. In the early stages of a fire, move the battery from the vicinity of the fire to a safe location. Cool the area around the battery to prevent it from rupturing. Wear protective glasses, mask, and gloves when working.
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6. Measures to be taken in case of leakage (if electrolyte leaks from the product)

Precautions for human body	Even if the unusual odor of the electrolyte is temporarily inhaled or adheres to the skin No major health problems will occur. However, ventilate the area immediately and wash off the electrolyte. In this case, wipe with a boric acid solution or a cloth moistened with water, and rinse off the residue with plenty of water.
Environmental Precautions	Wipe with a dry cloth and keep away from fire.

7. Handling Precautions

<p>handling warning</p>	<p>Since batteries may leak, generate heat, or in extreme cases, explode due to misuse, etc., the following precautions should be taken.</p> <p>(1) Do not short-circuit. (2) Load batteries in the correct orientation. (3) Do not mix different types of batteries, new batteries and old batteries. (4) Do not heat or solder batteries or throw them into a fire. (5) Do not disassemble, deform, or process batteries. (6) Do not allow children to replace batteries without adult supervision. (7) If swallowed, consult a physician immediately. (8) This battery is not designed for recharging.</p>
<p>Storage method</p>	<p>Batteries should be stored in a cool, dry, well-ventilated place. A storage temperature of +10° C to +25° C is appropriate and should not exceed +30° C. Avoid extreme humidity conditions (relative humidity above 85% or below 45%). Also, store the product away from direct sunlight and rainwater for long periods of time. Exposure to high temperatures will increase performance degradation and leakage. Avoid scattering batteries in containers, as short circuits may cause burns, leakage or explosion hazards. Avoid contact with water, metal chains, metal chips, etc., as they may cause short circuits.</p>

8. Exposure controls and protective measures

nothing in particular

9. Physical and chemical properties

<p>condition</p>	<p>solid-state</p>
<p>Appearance, etc.</p>	<p>button configuration</p>
<p>Nominal Voltage</p>	<p>1.55V</p>

10. Stability and reactivity

stability : Stable under normal operating conditions

Conditions to avoid See section 7.

11. Hazard Information

The chemicals are sealed inside the battery case and are not harmful.

12. Environmental Impact Information

When used batteries are buried in the ground, it was confirmed that there is little or no leakage of metals contained in the batteries. There is no information on environmental impact.

13. Disposal Precautions

When discarding batteries, insulate the positive and negative terminals of the batteries to avoid contact with each other. Batteries may short-circuit if stacked or mixed apart.

Dispose of batteries in accordance with the law and local regulations.

14. Transport Precautions

Silver oxide batteries are classified as "dry cells" and are not dangerous substances regulated by transportation regulations.

They can be transported as normal cargo since they meet the requirements of the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA/DGR, 65th Edition), Special Regulation A123. It can also be transported as conventional cargo under the transport regulations of the International Maritime Organization (IMO) and the U.S. Department of Transportation (DOT). When transporting by ship, trailer, or rail, avoid exposure to high temperatures, condensation, etc.

Avoid transportation with the possibility of cargo collapse or packaging damage.

15. Applicable Laws and Regulations

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

16. Other

For inquiries regarding product quotations and sales, please contact us using the dedicated form on the Murata Manufacturing website.

For inquiries, please contact : <<https://www.murata.com/ja-jp/contactform>>