



PRODUCT SAFETY DATA SHEET

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The batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is provided as technical information only. The information and recommendations set forth are made in good faith and are believed to be accurate as of the date of preparation. However, **Maxell makes no warranty expressed or implied.**

Section 1 - Product and Company Identification

Product Name Coin Type Lithium Manganese Dioxide Batteries (CR)	Sizes: All	Date of preparation: Jan. 1, 2014
Company: Hitachi Maxell, Ltd., Energy Division, Micro Battery Design Department	Telephone Numbers: 81-(0)794-63-8054	
Address (Number, Street, City, State, and ZIP Code): 5, Takumidai, Ono-shi, Hyogo 675-1322, Japan	Fax Numbers: 81-(0)794-63-8058	

Section 2 - Composition/Information on Ingredients

Ingredient	CAS#	Content (wt%)
Manganese Dioxide	1313-13-9	15 to 40
Propylene Carbonate	108-32-7	2 to 6
1,2-Dimethoxyethane	110-71-4	1 to 5
Lithium Perchlorate	7791-03-9	0.1 to 1.5
Lithium or Lithium Alloy*	7439-93-2	1 to 5
Graphite	7782-42-5	1 to 4

*) Lithium content for each cell

Model	Li content (g)	Model	Li content (g)
CR1025	0.009	CR2016	0.03
CR1216	0.008	CR2025	0.05
CR1220	0.011	CR2032	0.07
CR1616	0.02	CR2032H	0.07
CR1620	0.025	CR2430	0.09
CR1632	0.04	CR2450	0.18
CR2012	0.02		

Section 3 - Hazards Identification

This contains lithium, organic solvent, and other combustible materials. For this reason, improper handling of the battery could lead to distortion, leakage*, overheating, explosion, or fire and cause human injury or equipment trouble. Please strictly observe safety instructions.

(* Leakage is defined as an unintended escape of liquid from a battery.)

Section 4 - First Aid Measures

None unless internal materials exposure. If contents are leaked out, observe following instructions

Inhalation	Fumes can cause respiratory irritation. Remove to fresh air and consult a physician.
Skin	Immediately flush skin with plenty of water. If itch or irritation by chemical burn persists, consult a physician.
Eyes	Immediately flush eye with plenty of water for at least 15 minutes. Consult a physician immediately
Ingestion	If swallowing a battery, consult a physician immediately. If contents come into mouth, immediately rinse by plenty of water and consult a physician.

Section 5 - Fire Fighting Measures

Extinguishing Media	Extinguisher of alkaline metal fire is effective. Plenty of cold water is also effective to cool the surrounding area and control the spread fire. But hydrogen gas may be evolved by the reaction of water and lithium and it can form an explosive mixture. Therefore in the case that lots of lithium batteries are burning in a confined space, use a smothering agent.
Fire fighting procedure	Use self-contained breathing apparatus and full protective gear not to inhale harmful gas.

Section 6 - Accidental Release Measures

NA

NA=Not Applicable



Section 7 - Handling and Storage

1) Handling

Never swallow. Never charge. Never heat. Never expose to open flame. Never disassemble. Never reverse the positive and negative terminals when mounting. Never short-circuit the battery. Never weld the terminal or wire to the body of the battery directly. Never use different batteries together. Never touch the liquid leaked out of battery. Never bring fire close to battery liquid. Never keep in touch with battery.

2) Storage

Never let the battery contact with water. Never store the battery in hot and high humid place.

Section 8 - Exposure Controls, Personal Protection

Respiratory Protection		NA
Ventilation	Local Exhaust	NA
	Mechanical	NA
	Special	NA
	Other	NA
Eye Protection		NA
Protective Gloves		NA
Other protective clothing		NA

Section 9 - Physical/Chemical Characteristics

NA

Section 10 - Stability and Reactivity

Stability	Stable
Incompatibility	Water
Hazardous polymerization	Will not occur.
Condition to avoid	See section 7.
Hazardous Decomposition or Byproducts	Hydrogen

Section 11 - Toxicological Information

NA

Section 12 - Ecological Information

NA

NA=Not Applicable



- UN(United Nations) Recommendations on the Transport of Dangerous Goods: Model Regulations 17th revised edition
- UN(United Nations) Recommendations on the Transport of Dangerous Goods: Manual of Test and Criteria 5th revised edition, Amendment 1
- The International Civil Aviation Organization (ICAO): Technical Instructions for Safety Transport of Dangerous Goods by Air, 2013-2014 edition
- The International Air Transport Association (IATA): Dangerous Goods Regulations, 55th edition
- International Maritime Organization (IMO): International Maritime Dangerous Goods (IMDG) Code, 2012 edition

Section 16 - Other Information

If you want further information, please contact Maxell sales representative.