

Material Safety Data Sheet

Document number: MSDS-CR- 01-14

Section 1 Product & company identification

Manufacturers Name	GUANGZHOU HUALI BATTERY CO., LTD			
Address	70 INDUSTRIAL RD LIANHUASHAN PANYU GUANGZHOU CHINA			
Date	Jan. 1, 2014			
Model	CR2 CR14250	CR123A CR17450	CR1/3N	Chemical system Primary lithium battery

Section 2 Composition/information on ingredients

Composition	Wt%
Manganese Dioxide (MnO ₂)	30 to 40
Lithium Perchlorate (LiClO ₄)	31.0to 1.5
Lithium or Lithium Alloy (Li)	2 to 3
Graphite (C)	2 to 3

Section 3 Hazards identification

Material	Appearance	Toxicity (Potential Health Effects)
Li	Silvery white metal	Flammable and burn the skin. Direct exposure to areas of the body need to be treated immediately to prevent injury.

Section 4 First aid measures

Eyes: Flush with water for at least 15 min. If irritation occurs and persists, contact a medical doctor.

Skin: Remove contaminated clothing and thoroughly wash with soap and plenty of water. If irritation persists, contact a medical doctor.

Inhalation: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor IMMEDIATELY.

Section 5 Fire fighting measures

Flash Point:	N/A
Extinguishing Media:	Water, carbon dioxide or dry chemical.
Basic Fire Fighting Procedures:	Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Unusual Fire and Explosion Hazards:	There is flammable or explosive material used in the battery.

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Section 6 Accidental release measures

Procedure for Release and Spill:

Sweep up and place in a suitable container. Dispose or waste according to all local, state and Federal Laws and Regulations. Before clean up measures begin, review the entire MSDS with particular attention Potential Health Effects; and on Recommended Personal Protective Equipment.

Section 7 Handling & storage

Handling: Avoid contact with eyes, skin or clothing, use with adequate ventilation. Wear safety glasses and rubber gloves. Wash thoroughly after handling.

Storage: Store in a cool, dry place. This material is not hazardous under normal storage condition; however, Li should be keep away from H₂O. Keep container closed.

Section 8 Exposure controls/personal protection

Skin protection: Wear protective gloves are recommended. Wash hands and contaminated skin thoroughly after handling.

Eye/face protection: No Data.

Respiratory protection: No Data.

Other equipment: No Data.

Section 9 Physical and chemical properties

Material	Density (g/cm ³)	Boiling Point (°C)	Solubility in Water	Odor	Appearance and Color
MnO ₂	5.026	---	Insoluble	Odorless	Black power
Li	0.534	-----	React desperately	Odorless	Silvery white metal

Section 10 Stability and reactivity

Stability	Unstable	N/A	
	Stable	Stable	
Incompatibility (Materials to avoid):	Li should avoid H ₂ O		
Hazardous Decomposition Products:	None		
Hazardous Polymerization :	Will not Occur		

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Section 11 Toxicological information

Toxicological information: No information available.

Section 12 Ecological information

Chemical Fate Information: No data are available.

Environmental Effects : No data are available.

Section 13 Disposal considerations

Ensure disposal of material in compliance with all local, State and Federal Laws and Regulations.

Section 14 Transport information

Number of dangerous goods: /

UN Number: /

Packaging Mark: /

Packaging Method: /

Transport Attentions: According to PACKING INSTRUCTION 968-970 of IATA DGR 55th Edition for Transportation, the special provision 188 of IMDG (inc Amdt 35-10). The batteries should be securely packed and protected against short-circuits. Examine whether the package of the containers are integrate and tighten closed before transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain. The transport vehicle and ship must be cleaned and sterilized otherwise it is not allowed to assemble articles. During transport, the vehicle should prevent exposure, rain and high temperature. For stop overs, the vehicle should be away from fire and heat sources. When transported by sea, the assemble place should keep away from bedroom and kitchen, and isolated from the engine room, power and fire source. Under the condition of Road Transportation, the driver should drive in accordance with regulated route, don't stop over in the residential area and congested area.

Section 15 Regulatory information

Regulatory information: No data are available.

Section 16 Other information

Precautions to be taken in handling and Use. Do not recharge, disassemble, short circuit, dispose in fire, heat above 100EC(212EF) or incinerate. Dispose of used battery promptly. Keep away from children and heat source of flame.