

# MSDS

## MATERIAL SAFETY DATA SHEET

**Prepared For** : SHENZHEN GMCELL TECHNOLOGY CO., LTD  
Hualian Panorama International Building, 27  
District, Bao'an, Shenzhen, China

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**Issue Date** : 2020.01.02

**Report Number** : LCS191205043ASD

**Written by:** Seven Liu

**Approved by:** HA



# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

\* The MSDS is prepared based on the information provided by client. The contents and formats of this MSDS are revised as per client's request.

## Section 1-Chemical Product and Company Identification

<b>Product Name</b>	Alkaline Battery
<b>Model</b>	LR6, LR03, 6LR61, LR20, LR14, LR1, 3LR12, 4LR25, 23A, 27A, AG0,AG1, AG2, AG3, AG4, AG5, AG6, AG7, AG8, AG9, AG10, AG11, AG12,AG13, L1154H, L1130H
<b>Trade Mark</b>	GMCELL
<b>Ratings</b>	1.5V
<b>Weight</b>	10.8g
<b>Manufacturer</b>	SHENZHEN GMCELL TECHNOLOGY CO., LTD
<b>Manufacturer address</b>	Hualian Panorama International Building, 27 District, Bao'an, Shenzhen, China
<b>Emergency Telephone</b>	+86-755-29497371
<b>Fax</b>	+86-755-23703178

## Section 2- Composition Information

Chemical Composition		CAS No.	Weight (%)	Trade Secret
Zinc		7440-66-6	32.6	*
Manganese dioxide		1313-13-9	22.61	*
Steel (Iron)		7439-89-6	16.93	*
Zinc		7440-66-6	14.56	*
Potassium hydroxide		1310-58-3	7.48	*
Graphite		7782-42-5	2.12	*
Cu-Zn alloy	Copper	7440-50-8	1.86	*
	Zinc	7440-66-6		
Zinc oxide		1314-13-2	0.49	*
Butanone		78-93-3	0.12	*
Calcium stearate		216-472-8	0.11	*
Other ingredients(water,paper, nylon,etc)		12125-02-9	1.12	*

\* The exact percentage (concentration) of composition has been withheld as a trade secret.

# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

Section 3- Hazards Identification	
Emergency overview:	N/A
Classification according to GHS	Not a dangerous substance according to GHS
Label elements:	
Hazard pictogram(s)	Not Available
Signal word	Not Available
Hazard statement(s)	Not Available
Precautionary statement(s):	
Prevention	Not Available
Response	Not Available
Disposal	Not Available
Environmental hazards:	Not relevant information
Important symptoms:	See section 11 for more information
Section 4- First Aid Measures	
Eye contact	Flush eyes with plenty of water for least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin contact	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
Inhalation	Remove from exposure and move to fresh air immediately. Use oxygen if available.
Ingestion	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.
Section 5- Fire Fighting Measures	
Flash Point	N/A
Auto-Ignition Temperature	N/A
Extinguishing Media	H <sub>2</sub> O, CO <sub>2</sub>
Special Fire-Fighting Procedures	Self-contained breathing apparatus
Unusual Fire and Explosion Hazards	Cell may vent when subjected to excessive heat-exposing battery contents
Hazardous Combustion Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.
Section 6- Accidental Release Measures	

# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

**Personal precautions, protective equipment and emergency procedures:**

If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed with sand, earth or other inert substance and contaminated area should be ventilated meantime.

**Environment precautions:**

Do not allow product to reach sewage system or any water source.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:**

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

## Section 7- Handling and Storage

<b>Handling</b>	The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.
<b>Storage</b>	Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.
<b>Other Precautions</b>	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

## Section 8- Exposure Controls/Personal Protection

<b>Engineering Controls</b>	Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.
<b>Personal Protective Equipment</b>	Respiratory Protection: Not necessary under normal conditions. Skin and body Protection: Not necessary under normal conditions, Wear suitable protective clothing and gloves if handling an open or leaking battery. Hand protection: Wear suitable gloves if handling an open or leaking battery. Eye Protection: Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.
<b>Other Protective Equipment</b>	Have a safety shower and eye wash fountain readily available in the immediate work area.
<b>Hygiene Measures</b>	Do not eat, drink, or smoke in work area. Maintain good housekeeping.

## Section 9- Physical and Chemical Properties

# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

Form	Solid
Color	Not Available
Odour	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Boiling Point and Boiling range	Not Available
Flash Point	Not Available
Upper/lower flammability or explosive limits	Not Available
Vapor Pressure	Not Available
Vapor Density	Not Available
Relative density	Not Available
Solubility in Water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Evaporation rate	Not Available
Flammability (soil, gas)	Not Available
Viscosity	Not Available
<b>Section 10- Stability and reactivity</b>	
Stability	The product is stable under conditions described Section 7
Conditions to Avoid	Heat above 70°C or incinerate. Deform, Mutilate, Crush, Disassemble, Overcharge, Short circuit, Expose over a long period to humid conditions.
Incompatible Materials	Oxidizing agents, acid, base.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, lithium oxide fumes.
Possibility of Hazardous Reaction	Not Available
<b>Section 11 – Toxicological Information</b>	
Irritation	Risk of irritation occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.

# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

<b>Sensitization</b>	Not Available
<b>Neurological Effects</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Mutagenicity (Genetic Effects)</b>	Not Available
<b>Toxicologically Synergistic Materials</b>	Not Available

## Section 12- Ecological Information

<b>Ecological Toxicity</b>	Not Available
<b>Mobility in soil</b>	Not Available
<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulation potential</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

## Section 13- Disposal Considerations

<b>Product disposal recommendation</b>	Observe local, state and federal laws and regulations.
<b>Uncleaned packaging recommendation</b>	Disposal must be made according to official regulations

## Section 14 – Transport Information

<b>Label for conveyance</b>	Non Regulated
<b>UN Number</b>	Non Regulated
<b>Transport hazard class(es)</b>	Non Regulated
<b>Packing group</b>	Non Regulated
<b>Marine pollutant</b>	No
<b>UN Proper shipping name</b>	Non Regulated

### Transport information:

This goods shall be considered Not Restricted Goods by the U.S. Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) DGR 61th, IATA Special Provisions A123, International Maritime Dangerous Goods Code (IMDG CODE) (Amdt.39-18)

The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air or Sea Waybill.

**Transport Fashion:** By air, by sea, by railway, by road.

# Material Safety Data Sheet

REPORT NO.: LCS191205043ASD

## Section 15- Regulatory information

### Law information

《Dangerous Goods Regulations》  
《Recommendation on the Transport of Dangerous Goods Model Regulations》  
《International Maritime Dangerous Goods》  
《Technical Instructions for the Safe Transport of Dangerous Goods》  
《Classification and code of dangerous Goods》  
《Consumer Product Safety Act》 (CPSA)  
《Federal Environmental Pollution Control Act》 (FEPCA)  
《Resource Conservation and Recovery Act》 (RCRA)  
《European Agreement concerning the International Carriage of Dangerous》  
《Regulations concerning the International Carriage of Dangerous》

In according with all Federal, State and local laws.

## Section 16- Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, concorde makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

-- End of Report --