中国认可
国际互认
检验
INSPECTION
CNAS IB0551

Report No.: NJKK2FB204SDS01

SAFETY DATA SHEET

Product :	Mercury-free Alkaline Zn/MnO_2 Primary Battery
Type/Model :	LR03
Issue Date :	2025-12-22
Validity :	2026-01-01 ~ 2026-12-31
Compiler :	Zhang Cong Su
Reviewer :	Owen Huang
Approver :	Hongbin Xu

MCM Technology & Service

Guangzhou MCM Certification & Testing Co., Ltd.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier

Name of Product: Mercury-free Alkaline Zn/MnO_2 Primary Battery
Registration number: N/A

1.2 Other means of identification

Product Models: LR03
Nominal Voltage: 1.5V
Nominal capacity: /
Nominal Power: /
Weight: No information available

1.3 Recommended use of the chemical and restriction on use

Recommended Use: Others
Restriction on Use: No information available

1.4 Information Of Supplier:

Company Name: Sichuan Changhong New Energy Technology Co., LTD
Address: 36 Xinping Avenue, High-tech Zone, Mianyang City, Sichuan Province
Zip code: 621000
Contact person: /
Tel: 18681655156
Fax: /
E-mail: juan.gui@changhong.com

1.5 Emergency Telephone

18681655156

SECTION 2.Hazard(s) Identification

2.1 Classification

This chemical is not considered hazardous by the Regulation (EC) No 1272/2008 (CLP). This product is an article which is a sealed battery and as such does not require an SDS per the Regulation (EC) No 1272/2008 (CLP) unless ruptured. The hazards indicated are for a ruptured battery.

Acute toxicity – Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

2.2 Label elements

2.2.1 Signal Word Danger

2.2.2 Hazard Statements

H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction
H350 May cause cancer
H371 May Cause damage to organs.
H335 May cause respiratory irritation

2.2.3 Symbol



This product is an article which contains a chemical substance. Safety information is given for exposure to the article as solid. Intended use of the product should not result in exposure to the chemical substance, This is a battery. In case of rupture: the above hazards exist.

2.3 Precautionary Statements

2.3.1 Precautionary Statements – Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
P264 Wash face, hands and any exposed skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P210 Keep away from heat/sparks/open flames/hot surfaces –no smoking.
P270 Do not eat, drink or smoke when using this product.

2.3.2 Precautionary Statements – Response

P301 P312 P330 P308 P281
If exposed or connected: Get medical advice/attention. Specific treatment(see supplemental first aid/instruction on this label).

Skin

If on skin: wash with plenty of soap and water. Take off contaminated clothing and water before reuse, if skin irritation or rash occurs: get medical advice/attention if feel unwell.

Eye

If in eyes: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do, Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation

If inhalation: if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion

If swallowed: rinse mouth, do not induce vomiting, Call a POISON CENTER or doctor/physician if you feel unwell.

2.3.3 Precautionary Statements – Storage

P405
Store locked up

2.3.4 Precautionary Statements – Disposal

P501
Dispose of contents/container to an approved waste disposal plant.

2.4 Hazards not otherwise classified (HNOC)

Not applicable

2.5 Unknown Toxicity

5% of the mixture consists of ingredient(s) of unknown toxicity.

2.6 Other information

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.7 Interactions with other chemicals

Use of alcoholic beverages may enhance toxic effect.

SECTION 3.Composition/ Information on Ingredients

Chemical Name	Molecular formula	EC No.	CAS No.	Weight
Manganese dioxide	MnO_2	215-202-6	1313-13-9	35-40%
ZINC	Zn	231-175-3	7440-66-6	15-20%
Iron	Fe	231-096-4	7439-89-6	18-23%
Potassium Hydroxide	KOH	215-181-3	1310-58-3	2-4%
Water	H_2O	7732-18-5	7732-18-5	3-6%
Graphite	C	7782-42-5	7782-42-5	3-6%
Copper foil	Cu	231-159-6	7440-50-8	1-3%
Polyamide	---	805-352-6	63428-84-2	1-3%
Zinc oxide	ZnO	215-222-5	1314-13-2	1-3%

4. First Aid Measures

4.1 General Advice

First aid is Applicable only in the case of cell rupture.

4.1.1 Eye contact

If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eyes wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area.

4.1.2 Skin Contact

Wash off immediately with plenty of water and soap for at least 15 minutes. In the case of skin irritation or allergic reaction see a physician. May cause an allergic skin reaction.

4.1.3 Inhalation of Vented Gas

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substances; give artificial respiration with the aid of a pocket mask equipped with a one-way value or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

4.1.4 Ingestion

Do not induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

4.1.5 Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved. Take precaution to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personnel protective equipment as required. Wear personnel protective clothing (see section8).

4.2 Most important symptoms and effects, both acute and delayed

Burning sensation, Itching. Rashes. Hives, Coughing.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization of susceptible persons. Treat symptomatically.

SECTION 5.Fire –Fighting Measures

5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

5.3 Specific Hazards Arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Product is or contains a sensitizer.

Hazardous Combustion products

Carbon oxides.

5.4 Explosion Data

Sensitivity to Mechanical Impact :No.

Sensitivity to Static Discharge: No.

5.5 Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, and full protective gear. Move containers from fire area if you can do it without risk.

SECTION 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental Precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3 Methods for containment

Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

6.4 Methods for cleaning up

Pick up and transfer to properly labeled containers.

SECTION 7.Handling and Storage

7.1 Precaution for safe handling

In case of rupture, use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible products

Strong acids. Strong oxidizing agent. Strong bases.

SECTION 8. Exposure Controls/Personal Protection

8.1 Control parameters

Chemical Name	TLV	PEL	IDLH
Graphite 7782-42-5	TWA: 2 mg/m3 respirable fraction all forms except graphite fibers	TWA: 15 mg/m3 total dust synthetic TWA: 5 mg/m3 respirable fractionsynthetic (vacated) TWA: 2.5 mg/m3 respirable dust natural (vacated) TWA: 10 mg/m3 total dust synthetic (vacated) TWA: 5 mg/m3 respirable fraction synthetic TWA: 15 mppcf natural	IDLH: 1250 mg/m3 TWA 2.5 mg/m3(resp)
Copper 7440-50-8	TWA: 0.2 mg/m3 fume TWA: 1mg/m3 Cu dust and mist	TWA: 0.1 mg/m3 fume TWA: 1 mg/m3 dust and mist (vacated) TWA: 0.1 mg/m3 Cu dust, fume, mist	IDLH: 100 mg/m3 dust, fume and mist TWA: 1 mg/m3 dust and mist TWA: 0.1 mg/m3 fume

TLV: Threshold Limit Value

PEL: Permissible Exposure Limits

IDLH: Immediately Dangerous to Life or Health

8.2 Exposure controls

Engineering Measures:

Showers、Eyewash stations、Ventilation systems

8.3 Individual protection measures, such as personal protective equipment

Respiratory protection : No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Eye /face protection: if splashes are likely to occur: Wear safety glasses with side shields(or goggles). None required for consumer use.

Skin protection: Wear protective gloves and protective clothing. Long sleeved clothing. Imperious gloves.

Hygiene Measure: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. No information available.

SECTION 9. Physical and Chemical Properties

Physical State: Approximate Cylinder, Solid
Color: Silver
Odor: Odorless
Odor Threshold: No information available
pH: No data available
Melting/freezing point: No data available
Boiling point/boiling range: No data available
Flash Point: No data available
Evaporation Rate: No data available
Flammability (Solid, gas): No data available
Flammability Limit in Air:
Upper flammability limit: No data available
Lower flammability limit: No data available
Vapor pressure: No data available
Vapor density: No data available
Specific Gravity: No data available
Solubility: Insoluble in water
Partition coefficient:n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Kinematic viscosity: No data available
Dynamic viscosity: No data available

SECTION 10. Stability and Reactivity

Reactivity:
No data available
Chemical stability:
Stable under recommended storage conditions.
Possibility of Hazardous Reactions:
None under normal processing.
Hazardous Polymerization:
Hazardous polymerization dose not occur.
Conditions to avoid:
Do not subject battery to mechanical shock. Keep away from open flames, high temperature.
Incompatible materials:
Strong acids, Strong oxidizing agents. Strong bases.
Hazardous decomposition products:
Carbon oxides

SECTION 11. Toxicological Information

11.1 Information on likely routes of exposure

Product information:
Product does not present an acute toxicity hazard based on known or supplied information. In case of

rupture:

Inhalation:

Specific test data for the substance or mixture is not available. Corrosive by inhalation(base on components). Inhalation of corrosion fumes/gases may cause coughing, choking, headache, dizziness and weakness for several hour. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure and increased heart rate. Inhaled corrosion substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.

Eye Contact:

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Corrosion to the eyes and may cause severe damage including blindness. Cause serious eye damage. May cause irreversible damage to eyes.

Skin Contact:

Specific test data for the substance or mixture is not available. Corrosion (based on components). Cause burns. Toxic in contact with skin. May be absorbed through the skin in harmful amounts.

Ingestion:

Specific test data for the substance or mixture is not available. Cause burns. (based on components). Ingestion cause burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Graphite 7782-42-5	＞10000mg/kg (Rat)	-	-

11.2 Information on toxicological effects

Symptoms:

Erythema (skin redness). May cause redness and tearing of eyes. Itching. Rashes. Hives. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/or wheezing.

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: May cause sensitization of susceptible person, May cause sensitization by skin contact. May cause sensitization by inhalation.

Mutagenic Effects: No information available.

Carcinogenicity: No information available.

IARC (International Agency for research on Cancer)
Group 2B- Possibly Carcinogenic to humans

Reproductive Toxicity: No information available.

STOT- single exposure: No information available.

STOT- repeated exposure: No information available.

Aspiration Hazard: No information available.

SECTION 12. Ecological Information

Ecotoxicity:slightly hazardous for water.

Chemical name	Toxicity to Aglae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Cooper 7440-50-8	96h EC50:0.31-0.045mg/l (pseudokirchneriella subcapitata) 72h EC50:0.426-0.0535mg/l (pseudokirchneriella subcapitata)	96h LC50:0.068-0.0156mg/L (pimephales promelas) 96h LC50:=0.112mg/L(Poecilia reticulate) 96h LC50=0.3mg/L(Cyprinus marpio) 96h LC50=0.8mg/L((Cyprinus marpio) 96h LC50=1.25mg/L(Lepomis macrochirus) 96h LC50=0.052mg/L(Oncorhynchus mykiss) 96h LC50=0.2mg/L(Pimephales promelas) 96h LC50:＜0.3mg/L(Pimephales promelas)	/	48h EC50:=0.03mg/l

Persistence and Degradability: No information available
Bioaccumulation: No information available
Other adverse effects: No information available

SECTION 13. Disposal Considerations

13.1 Waste treatment methods

Disposal methods:

This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult the appropriate state, regional, or local regulations for additional requirements. Should not be released into the environment.

Contaminated Packaging:

Dispose of in accordance with federal, state and local regulations.

SECTION 14. Transportation Information

According to Packing Instruction 965-970 of IATA DGR for transportation, or the special provision 188 of IMDG Code, 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. Don't put the goods together with oxidizer and chief food chemicals. The transport vehicle should prevent exposure, rain and high temperature. For stopovers, 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 sources. 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.

Forbid to use wooden, cement for bulk transport:

Lithium batteries shipped as "Lithium batteries", "Lithium batteries packed with equipment", or "Lithium batteries contained in equipment" may not be classified as "Dangerous Goods" when shipped in accordance with "PI965-967 section II of IATA-DGR" or "special provision 188 of IMO-IMDG Code"

DOT: NOT REGULATED

Proper Shipping Name: NON REGULATED

Emergency Response Guide Number: 147

Hazard Class: N/A

ICAO: Not regulated

IATA:

According to IATA-DGR 67th Edition (Effective 1 January-31 December 2026)	
UN Number + Proper Shipping Name	No regulations
Hazard Class	Not restricted
Package instruction	Strong package, packaging in accordance to corresponding requirements of A123

IMDG Code /IMO:

According to IMO IMDG Code (42-24 Edition)	
UN Number + Proper Shipping Name	No regulations
Hazard Class	Not restricted
Package instruction	Strong package, packaging in accordance to the general packing instructions
Ems No.	/

ADR:

According to ADR-2025	
UN Number + Proper Shipping Name	No regulations
Hazard Class	Not restricted
Package instruction	Strong package, packaging in accordance to the general packing instructions

RID: Not regulated

AND: Not regulated

SECTION 15. Regulatory information

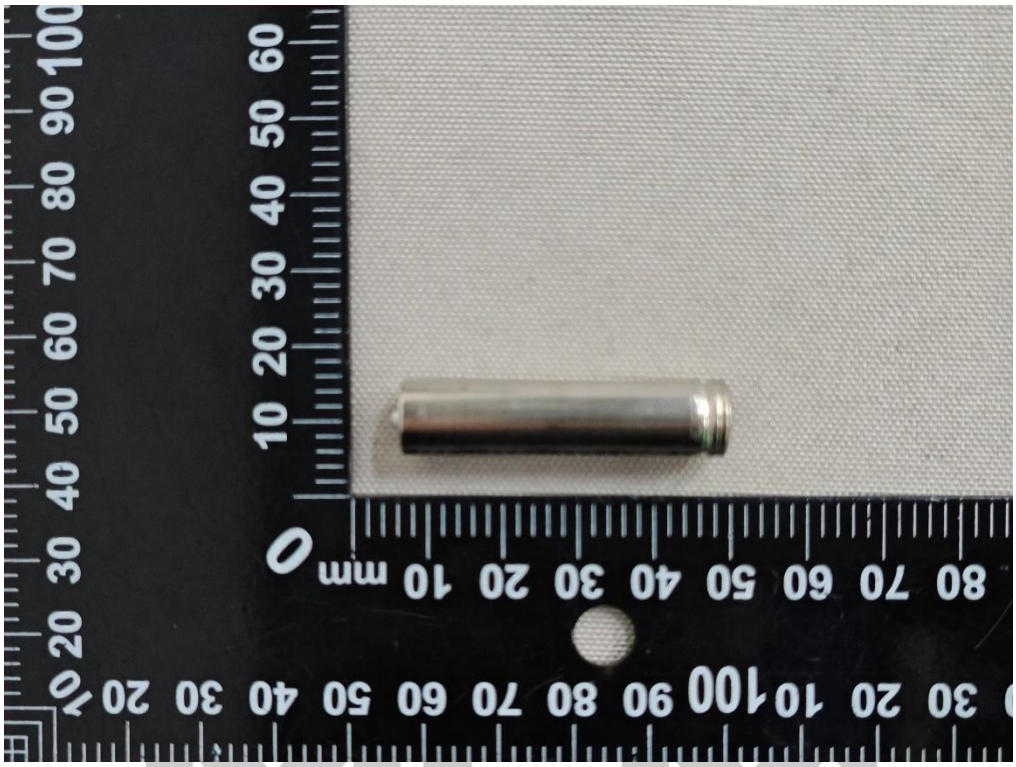
Directive 2014/113/EU
Regulation (EC) No 1272/2008 (CLP)
Directive 2014/27/EU
Environmental Quality Standards (EQS)-Directive 2008/105/EC
《Dangerous Goods Regulation》(DGR)
《Recommendations on the Transport of Dangerous Goods Model Regulations》
《International Maritime Dangerous Goods》(IMDG)
《Occupational Safety and Health Act》(OSHA)
《Toxic Substances Control Act》(TSCA)
《Code of Federal Regulations》(CFR)
《Technical Instructions for the Safe Transport of Dangerous Goods》
In accordance with EU laws.

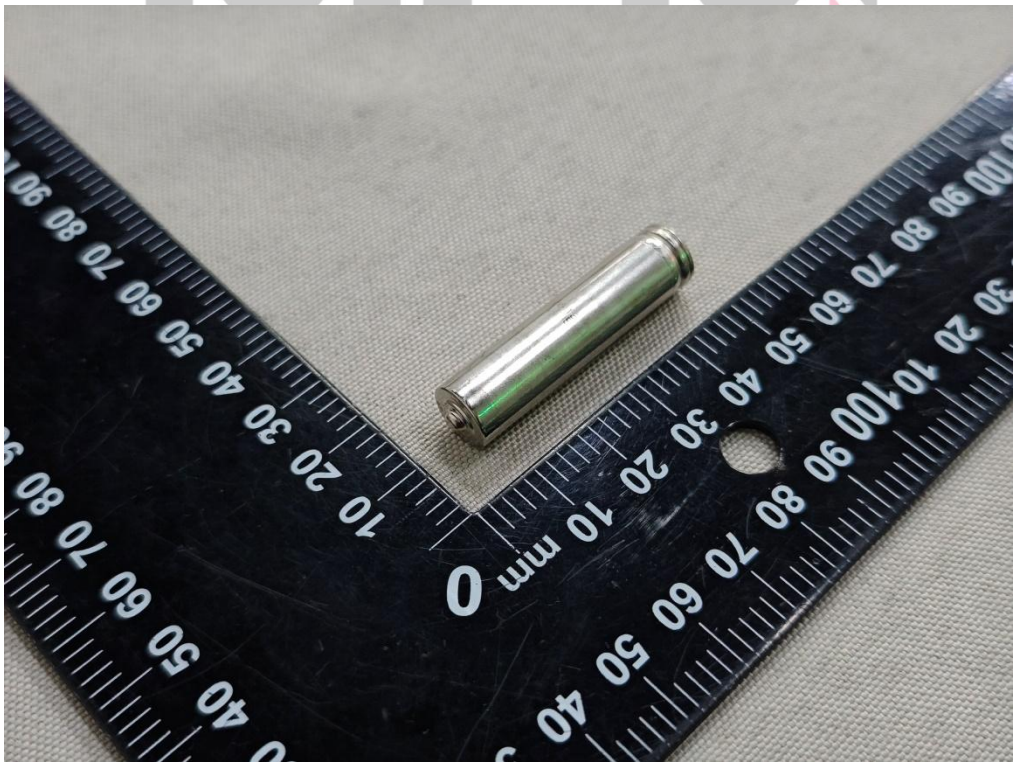
SECTION 16. Other Information

According standard:
ISO 11014:2009(E) Safety data sheet for chemical products – Content and order of sections
Regulation (EC) No 1272/2008 (CLP)
Commission Regulation (EU) 2015/830
Disclaimer:
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used material used in combination with any other materials or in any process, unless specified in the test.
Prepared By:
Guangzhou MCM Certification and Testing Co., Ltd.
Building 2 No. 45 Zhong Er Section of Shiguang Road, Zhongcun Street, Panyu District,
Guangzhou City, Guangdong Province, China.
Tel.: +86-20-3477 7662, 0086-020-3477 7662 Fax.: /
Web: https://www.mcmtek.com Email: service@mcmtek.com
Issuing Date: 2025-12-22

Sample Reference Photo

Model: LR03





--- End of SDS ---