Safety Data Sheet

This sheet is only provided as technical information and is referred normal use of the product in question. Pairdeer makes no warranty expressed or implied.

Section 1- Identification

● Product Name Alkaline zinc-manganese dioxide batteries	Sizes LR6/LR03/LR20/LR14
● Company: Zhongyin (Ningbo) Battery Co., Ltd.	Telephone Numbers: +86 574 87491087 / 87493214
● Address: 128 Xingguang Road, Hi-Tech Park Ningbo China	Fax Numbers: +86 574 87493903
	Date of preparation Jan.1, 2023

Section 2-Hazards Identification

This contains potassium hydroxide solution (KOH), and other combustible materials, all sealed in steel can. For this reason, improper handling of the battery could lead to distortion, leakage*, overheating, explosion and cause human injury or equipment trouble. Please strictly observe safety instructions.

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

GHS classification: N/A

Signal Word: N/A

Hazard Classification: N/A

Under normal conditions of use, the battery is hermetically sealed.

Ingestion: Swallowing may lead to serious injury or death in as little as 2 hours due to chemical burns and potential perforation of the

esophagus. Immediately see doctor; have doctor phone (202) 625-3333. Do not induce vomiting or give food or drink.

Inhalation: Contents of an open battery can cause respiratory irritation.

Skin Contact: Contents of an open battery can cause skin irritation.

Eye Contact: Contents of an open battery can cause severe irritation.

Caution printed on each package to notify consumers: May explode or leak, and cause burn injury, if recharged, disposed of in fire, mixed with a different battery type, inserted backward or disassembled. Replace all used batteries at the same time. Do not carry batteries loose in your pocket or purse.

Section 3-Composition/Information on Ingredients

Ingredient	CAS#	Approximate Content(wt%)			
		LR6	LR03	LR14	LR20
Manganese Dioxide (MnO_2)	1313-13-9	42.6	40.9	40.6	41.8
Zinc (Zn)	7440-66-6	16.1	14.8	16.0	17.4
Water (H_2O)	7732-18-5	12.2	11.7	11.0	11.1
Potassium Hydroxide (KOH)	1310-58-3	5.2	4.8	7.0	7.0
Graphite	7782-42-5	3.0	1.7	3.2	3.4
Brass	12597-71-6	2.4	3.0	1.2	0.8
Iron	7439-89-6	15.7	20.4	18.6	16.3
Nickel	7440-02-0	0.3	0.3	0.2	0.2
Nylon-66	32131-17-2	1.6	1.5	1.6	1.4
Polyvinyl alcohol	9002-89-5	0.9	0.9	0.6	0.6

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

NA=Not Applicable

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

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

Section 6-Accidental Release Measures

Steps to be taken in case material is released or spilled.

Batteries that are leakage should be handled with rubber gloves.

Avoid direct contact with electrolyte.

Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

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 store the battery in hot and high humid place.

Section 8-Exposure Controls/Personal Protection

No engineering measure is necessary during normal use. If internal cell materials are leaked, the information in Section 4 & Section 6 will be useful.

Section 9-Physical and Chemical Characteristics

Nominal Voltage: 1.5V

Appearance	Solid object
Odor	None
Odor threshold	Not Measured
pH	NA
Melting point / freezing point	NA
Initial boiling point and boiling range	NA
Flash Point	NA
Evaporation rate (Ether = 1)	NA
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** NA
	Upper Explosive Limit: NA
Vapor pressure (Pa)	NA
Vapor Density	NA
Specific Gravity	NA
Solubility in Water	Insoluble
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	NA
Decomposition temperature	NA
Viscosity (cSt)	NA
VOC %	NA

Section 10-Stability and Reactivity

Stability	Stable
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

Section 13-Disposal Considerations

The battery may be regulated by national or local regulation. Please follow the instructions of proper regulation. As electric capacity is left in a discarded battery and it comes into contact with other metals, it could lead to distortion, leakage, overheating, or

explosion, so make sure to cover the (+)and (-) terminals with friction tape or some other insulator before disposal.

Section 14-Transportation Information

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in “strong outer packaging” that prevents spillage of contents. All original packaging for Pairdeer alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

All Pairdeer alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the 2022 IATA (63rd edition) Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

Section 15-Regulatory Information

USA EPA Mercury Containing & Rechargeable Battery Management Act of 1996: No mercury added

EU Battery Directive 2006/66/EC Amended 2013/56/EU: Pairdeer batteries are compliant with all aspects of the Directive

Section 16-Other Information

NA=Not Applicable

If you want further information, please contact Pairdeer sales representative

NA=Not Applicable