

GP Batteries

Material Safety Data Sheet for GP Cylindrical Alkaline Battery

Document Number: MAA100

Revision:30

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IDENTITY (As Used on Label and List)
Alkaline batteries
13A(LR20)/14A(LR14)/15A(LR6)/
24A(LR03)/910A(LR1)/25A(LR8D425)

Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that.

Section 1- Identification

Manufacturer's Name

GPI International Ltd.
Zhongyin (Ningbo) Battery Co., Ltd.

Telephone Number for information

852-2484-3111

Address (Number, Street, City State, and ZIP Code)

7/F, Building 16W, 16 Science Park West Avenue, Hong Kong Science Park, New Territories. H.K.

Date of prepared and revision

01 Jan, 2023

Signature of Prepare (optional)

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.)

Section 3 – Composition/Information on Ingredients

| Ingredient | CAS# | EINECS No. | Approximate Content (wt%) | | | | | |
|---------------------------------------|------------|------------|---------------------------|------------|------------|------------|------------|---------------|
| | | | 15A (LR6) | 24A (LR03) | 14A (LR14) | 13A (LR20) | 910A (LR1) | 25A (LR8D425) |
| Manganese Dioxide (MnO ₂) | 1313-13-9 | 215-202-6 | 42.6 | 40.9 | 40.6 | 41.8 | 34.2 | 36.0 |
| Zinc (Zn) | 7440-66-6 | 231-175-3 | 16.1 | 14.8 | 16.0 | 17.4 | 13.5 | 17.0 |
| Water (H ₂ O) | 7732-18-5 | 231-791-2 | 12.2 | 11.7 | 11.0 | 11.1 | 9.5 | 6.5 |
| Potassium Hydroxide (KOH) | 1310-58-3 | 215-181-3 | 5.2 | 4.8 | 7.0 | 7.0 | 4.2 | 1.3 |
| Graphite | 7782-42-5 | 231-955-3 | 3.0 | 1.7 | 3.2 | 3.4 | 3.0 | 2.3 |
| Brass | 12597-71-6 | 603-111-8 | 2.4 | 3.0 | 1.2 | 0.8 | 2.3 | 3.5 |
| Steel | 7439-89-6 | 231-096-4 | 15.7 | 20.4 | 18.6 | 16.3 | 29.5 | 30.0 |
| Ni-plating | 7440-02-0 | 231-111-4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.6 |
| Nylon-66 | 32131-17-2 | 608-706-6 | 1.6 | 1.5 | 1.6 | 1.4 | 2.9 | 2.2 |
| Fiber | None | None | 0.9 | 0.9 | 0.6 | 0.6 | 0.6 | 0.6 |

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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

| Flash Point (Method Used) | Ignition Temp. | Flammable Limits | LEL | UEL |
|---------------------------|----------------|------------------|------|------|
| N.A. | N.A. | N.A. | N.A. | N.A. |

Extinguishing Media

Carbon Dioxide, Dry Chemical or Foam extinguishers

Special Fire Fighting Procedures

N.A.

Unusual Fire and Explosion Hazards

Do not dispose of battery in fire - may explode.

Do not short-circuit battery - may cause burns.

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).

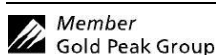
Section 7 – Handling and Storage

Safe handling and storage advice

Batteries should be handled and stored carefully to avoid short circuits.

Do not store in disorderly fashion or allow metal objects to be mixed with stored batteries.

Never disassemble a battery.



Manufacturer reserves the right to alter or amend the design, model and specification without prior notice.

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Do not breathe cell vapors or touch internal material with bare hands.

The cells and batteries shall not be stored in high temperature, the maximum temperature allowed is 60°C for a short period during the shipment, Otherwise the cells maybe leakage and can result in shortened service life.

Section 8– Exposure Controls / Person Protection

| | | |
|--|----------------------|---------|
| Occupational Exposure Limits: LTEP | STEP | |
| N.A. | N.A. | |
| Respiratory Protection (Specify Type) | | |
| N.A. | | |
| Ventilation | Local Exhausts | Special |
| | N.A. | N.A. |
| | Mechanical (General) | Other |
| | N.A. | N.A. |
| Protective Gloves | Eye Protection | |
| N.A. | N.A. | |
| Other Protective Clothing or Equipment | | |
| N.A. | | |
| Work / Hygienic Practices | | |
| N.A. | | |

Section 9 - Physical / Chemical Properties

| | | | |
|-----------------------------|------|---------------------------------------|------|
| Boiling Point | N.A. | Specific Gravity (H ₂ O=1) | N.A. |
| Vapor Pressure (mm Hg) | N.A. | Melting Point | N.A. |
| Vapor Density (AIR=1) | N.A. | Evaporation Rate (Butyl Acetate) | N.A. |
| Solubility in Water | | N.A. | |
| Appearance and Odor | | | |
| Cylindrical Shape, odorless | | | |

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Section 10 – Stability and Reactivity

| | | | |
|-----------|----------|---|---------------------|
| Stability | Unstable | | Conditions to Avoid |
| | Stable | X | |

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

| | | | |
|--------------------------|----------------|---|---------------------|
| Hazardous Polymerization | May Occur | | Conditions to Avoid |
| | Will Not Occur | X | |

Section 11 – Toxicological Information

| Route(s) of Entry | Inhalation? | Skin? | Ingestion? |
|-------------------|-------------|-------|------------|
| | N.A. | N.A. | N.A. |

Health Hazard (Acute and Chronic) / Toxicological information

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.

In contact with electrolyte can cause severe irritation and chemical burns.

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

Section 12 – Ecological Information

N.A.

Section 13 – Disposal Considerations

Dispose of batteries according to government regulations.

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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 GP 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 64th edition, 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 GP alkaline batteries are packed in such a way to prevent short circuits or the generation of dangerous quantities of heat and meet the special provisions listed above. In addition, the 2023 IATA 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

Special requirements according to local regulations.

Section 16 – Other Information

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

Section 17 – Measures for fire extinction

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.