MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name: Power-Xtra 23A Size 12V Alkaline Battery

Item No.: 23A / 12V

Manufacturer: POWER-XTRA TECHNOLOGY INTERNATIONAL LTD
Address: Shima Village, Tangxia Town, Dongguan City, Guangdong Province, China.
Telephone: 86-755-82581455
Effective Date: 2022/01/01

2. Composition/Information

Chemical Composition	CAS No.	Weight (%)
Manganese Dioxide (MnO_2)	1313-13-9	38
Zinc Metal (Zn)	7440-66-6	15
Potassium Hydroxide	1310-58-3	6
Graphite	7782-42-5	7
Water	7732-18-5	8
Iron (Fe)	7439-89-6	20
Nylon	25038-54-4	6

3. First-aid Measures

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately.

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen (15) minutes, and contact a physician.

4. Fire Fighting Measures

Flash Point: N/A

Flammable Limits: N/A

Auto-Ignition Temperature: N/A

Extinguishing Media: Carbon Dioxide, Dry Chemical or Foam extinguishers

Special Fire-Fighting Procedures: N/A

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.

5.Accidental Release Measures

Batteries that are leakage should be handled with rubber gloves.

Avoid direct contact with electrolyte.

6. Handling and Storage

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.

Do not touch internal material with bare hands.

Keep batteries between -30°C and 35°C.

7. Exposure Controls/Personal Protection

Occupational Exposure Limits: LTEP N.A.

Respiratory Protection (Specify Type)：N.A.

Ventilation Local Exhausts：N.A.

Eye Protection：N.A.

Other Protective Clothing or Equipment：N.A.

Protective Gloves：N.A.

8. Physical and Chemical Properties

Boiling Point: N/A

Specific Gravity (H_2O=1): N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (AIR=1): N/A.

Flammability: N/A.

Solubility in Water: N/A

Melting Point: N/A

Appearance and Odor: Cylindrical Shape, odorless

9. Stability and Reactivity

Stability: Stable

Incompatibility (Materials to Avoid): Hazardous Decomposition or Byproducts

Polymerization: Will Not Occur

10. 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. Ecological Information

Mammalian effects: None known at present.

11. Disposal Consideration

Dispose of batteries according to government regulations.

12. Transport Information

Alkaline button batteries are considered to be “Dry cell” batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states: “Batteries, dry are not subject to the requirements of this sub character only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). As of 1/1/97 IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

62th Edition Special Provision A123 which states: “An electrical or battery powered device having the potential of dangerous evolutions of heat that is nor prepared so as to prevent a short circuit (e.g. in the case of battery, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation.” The International Marring Dangerous Goods Code (IMDG) regulate them from ocean transportation under Special Provision 304 which says: Dry batteries containing corrosive electrolyte which will not flow out of the battery if the batteries case is cracked are not subject to the Provision of this Code provided the batteries are securely packed and protected against short-circuits, Example of such batteries are: alkali-manganese, zinc-carbon, nickel metal hydride and nickel-cadmium batteries.

Non-dangerous goods.

Such battery has been packed in inner packaging in such a manner as to effectively prevent short circuit and movement that could lead to short circuit.

13. Regulation Information

Special requirement be according to the local regulations.