MSDS Report

MATERIAL SAFETY DATA SHEET

Name of Sample	:	Dry Battery
Model	:	LR03, LR6, R03P, R6P, R03, R6, LR20, LR14, R20P, R14P, 6F22, 6LR61
Trade Name	:	N/A

Applicant	:	Shenzhen Bitfu Battery Co .,Ltd
Address	:	Jinggong workshop, No. 4, tenglian Road, Xixiang street, Bao'an District, Shenzhen

Report No.	:	HSO241217738DRM			
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Prepared and checked by

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Section 1- PRODUCT AND COMPANY IDENTIFICATION

-Applicant	:	Shenzhen Bitfu Battery Co .,Ltd
-Address	:	Jinggong workshop, No. 4, tenglian Road, Xixiang street, Bao'an District, Shenzhen
-Item number	:	HSO241217738DRM
-Product code	:	Dry Battery
-Model No.	:	LR03, LR6, R03P, R6P, R03, R6, LR20, LR14, R20P, R14P, 6F22, 6LR61
-Nominal Voltage:	:	1.5V
-Trade Name	:	N/A
-TEL	:	+86-15323714216
-E-mail	:	hbdhebangda@163.com

Section 2- HAZARDOUS INGREDIENTS

Chemical,Nature:N/A
CAS-No/EINECSNO.:N/A
INCI CTFA-Description: non-rechargeable Dry Battery series.
Hazard description: Do not dispose of in fire or short circuit.

Section 3- Composition/Information on Ingredient

Important note: The battery should not be opened or burned.
Exposure to the ingredients contained within or their combustion products could be harmful.

Common Chemical Name	Concentration (%)	CAS Number
Manganese Dioxide	38.88%	1313-13-9
Zinc Powder	15.28%	7440-66-6
Water	8.88%	7732-18-5
Potassium Hydroxide	6.95%	1310-58-3
Graphite Powder	2.92%	7782-42-5
Zinc oxide	0.31%	1314-13-2
Calcium Stearate	0.12%	1592-23-0
Polyamidc	0.08%	63428-84-2
Acrylic Acid Polymer	0.08%	9003-01-4
Others	26.50%	/

Section 4- First Aid Measures

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

Ingestion: Swallowing a battery can be harmful.

Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation: Contents of an open battery can cause respiratory irritation. Inhalation of vapors may cause irritation of the upper respiratory tract and lungs. Provide fresh air and seek medical attention.

Skin Absorption: Ethylene carbonate, diethyl carbonate and dimethyl carbonate may be absorbed through the skin causing localized inflammation.

Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Note: Acetylene black and cobalt compounds are listed as possible carcinogens by the International Agency for Research on Cancer (IARC).

Section 5- FIRE AND EXPLOSION HAZARD DATA

In case of fire where battery is present, flood the area with water. If any battery is burning, water may not extinguish them, but will cool the adjacent battery and control the spread of fire. CO2, dry chemical, and foam extinguishers are preferred for small fires, but also may not extinguish burning battery. Burning battery will burn them out. Virtually all fires involving be controlled with water. When water is used, however, LITH-X (powdered graphite) or copper

powder fire extinguishers, sand, dry ground dolomite or soda ash may also be used. These materials act as smothering agents. Fire fighters should wear self-contained breathing apparatus. Burning Dry Battery can produce toxic fumes including HF.

Section 6- Accidental Release Measures

Ventilation Requirements: Not necessary under normal conditions.
Respiratory Protection: Not necessary under normal conditions.
Eye Protection: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.
Gloves: Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.
Open Battery Storage: Battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

Section 7- HANDLING AND STORAGE

Handling:

Do not place it near the boiler and radiator, nor expose to direct sun light. Do not dispose of the fire and recharge, the battery, also short circuit is avoid , accidental short-circuiting or a few seconds will not seriously affect the battery. Do not disassemble or deform the battery.Should an individual cell within a battery become ruptured, do not allow contact with water.

Storage: Store in a cool, ventilated and dry warehouse. Keep away from kindling and heat source. Keep container sealed. It shall be stored separately from strong oxidants and corrosives. It must be firmly fixed in the inner package to effectively prevent short circuit and movement that may cause short circuit. The storage area shall be equipped with corresponding types and quantities of fire fighting equipment, leakage emergency treatment equipment and appropriate materials.

Section 8-CHARGING AND LABEING

Charging: N/A
Charging Voltages and Currents: N/A
Labeling: If the ATL label or package warnings are not visible, it is important to provide a package and/or device label stating:
WARNING: Do not dispose of in fire or short circuit.
Disposal: Dispose in accordance with all applicable federal, state and local regulations.

Section 9- PHYSICAL AND CHEMICAL PROPERTIED

Physical state	Solid	Solubility in water:	Not Applicable
Color	White	Vapor pressure	Not Applicable
Odor	No	Explosion limit	Not Applicable
Flashpoint	Not Applicable	Auto flammability	Not Applicable
Solubility in ethanol soluble	Not Applicable	Melting Point	Not Applicable
Boiling Point	Not Applicable	Freezing Point	Not Applicable

Section 10- STABILITY AND REACTIVITY

Keep the battery at room temperature to prolong the storage time.
This product does not.

Reactivity: Avoid contact with water and acids.

Hazardous decomposition products: If plastic enclosure and Al foil of battery is damaged,the battery should avoid to contact strong oxidizer, acids and high temperature, and the electrolyte will be formed HF.

Section 11- TOXICOLOGICAL INFORMATION

Under normal conditions of use, the battery is toxicological sealed. So void to open and damage battery directly. Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very Irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

Section 12- ECOLOGICAL INFORMATION

When promptly used or disposed the battery does not present environmental hazard.
When disposed, keep away from water, rain and snow.
If the battery is scrapped, it should be selected and disposed by professional company.

Section 13- DISPOSABLE CONSIDERATIONS

Do not dispose of battery into environment or sewerage.
It should be recycled and disposed basing on your local legislation and regulations.

Section 14 – TRANSPORT INFORMATION

Dry Battery 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 subchapter 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). The only requirements for shipping these batteries by ICAO and IATA is Special Provision A123 which states: “An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries,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.”
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.

Section 15- Regulatory information

REGULATORY INFORMATION

Law Information
《Dangerous Goods Regulation》
《Recommendations 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》
《Occupational Safety and Health Act》(OSHA)
《Toxic Substances Control Act》(TSCA)
《Consumer Product Safety Act》(CPSA)
《Federal Environmental Pollution Control Act》(FEPCA)
《The Oil Pollution Act》(OPA)
《Superfund Amendments and Reauthorization Act Title III (302/311/312/313) 》(SARA）
《Resource Conservation and Recovery Act》(RCRA)
《Safety Drinking Water Act》(CWA)
《California Proposition 65 》
《Code of Federal Regulations 》(CFR)
In accordance with all Federal, State and Local laws.

Section 16- OTHER INFORMATION

The information contained herein is furnished without warranty of any kind. Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information form all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

Relevant phrases:
R20/22 Harmful by inhalation and if swallowed
R36 Irritating to eyes
H302 Harmful if swallowed

Prepared By Shenzhen HSO. Test Technology Co., Ltd.
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