

Material Safety Data Sheet for FREEGO Alkaline Battery **Type No.:(LR6,LR03,LR1,LR14,LR20)**

Document Number: MSDSLR0010

IDENTITY (As Used on Label and List)

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 I

Manufacturer's Name

Dongguan Tuobu Electronic Co.,Ltd

Telephone Number 86 769 82123469

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

No.A,Building 6,Binhe Road,Tianxin Quarter,Huangjiang Town,Dongguan,Guangdong Province .China

Date of prepared and revision May 01, 13

Signature of Prepare (optional)

Section II - Hazardous Ingredients / Identity Information

Chemical Nature:	Wt. %	CAS No.	EEC No.	Index No.	Classification
Manganese Dioxide	35-40	1313-13-9	215-202-6	025-001-00-3	Xn;R20/22
Potassium Hydroxide	5-10	1310-58-3	215-181-3	019-002-00-8	Xn;R22, C;R35
Zinc	10-25	7440-66-6	231-175-3	030-002-00-7	N;R50/53

Section III - Physical / Chemical Characteristics

Boiling Point N.A.

Specific Gravity (H₂O=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

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)

N.A. Flammable Limits

N.A. LEL

N.A. UEL

N.A.

Extinguishing Media

N.A.

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 V – Reactivity Data

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 VI - Health Hazard Data

Route(s) of Entry

Inhalation N.A.

Skin N.A.

Ingestion 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 VII – First Aid Measures

First Aid Procedures

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.

If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops.

Ventilate the contaminated area.

Section VIII - Fire and Explosion Hazard Data

Flash Point (Method Used) N.A.

Ignition Temp. N.A.

Flammable Limits N.A.

LEL N.A.

UEL 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 IX – Accidental Release or Spillage

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 X – 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.

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

Keep batteries between -30°C and 35°C for prolong storage.

Section XI – Exposure Controls / Person Protection

Occupational Exposure Limits: LTEP

N.A.

STEP

N.A.

Respiratory Protection (Specify Type)

N.A.

Ventilation Local Exhausts

N.A.

Special

N.A.

Mechanical (General)

N.A.

Other

N.A.

Protective Gloves

N.A.

Eye Protection

N.A.

Other Protective Clothing or Equipment

N.A.

Work / Hygienic Practices

N.A.

Section XII – Ecological Information

N.A.

Section XIII – Disposal Method

Dispose of batteries according to government regulations.

Section XIV – Transportation Information

FREEGO 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 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). 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. We further certify that the captioned shipment is not classified as dangerous goods and it complies with Special Provision A123 under the IATA Dangerous Goods Regulation 54 th 2013 and all applicable carrier and governmental regulations.

Section XV – Regulatory Information

Special requirement be according to the local regulatories.

Section XVI – Other Information

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

Section XVII – 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.