GP Batteries

Material Safety Data Sheet for Manganese Dioxide Button Cell

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- Information of Manufacturer

Company Name GP Batteries International Ltd.	Emergency Telephone Number
Address (Number, Street, City, State, and ZIP Code) 7/F, Building 16W, 16 Science Park West Avenue Hong Kong Science Park, New Territories, Hong Kong	Telephone Number for information (+852) 24843111
	Date of prepared and revision May 1st Jan, 2020
	Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components

Description:	CAS#	EINECS NO.	Approximate % of total weight
Manganese dioxide	1313-13-9	215-202-6	~30%
Zinc	7440-66-6	231-175-3	~10%
Mercury	7439-97-6	231-106-7	~0.3%
Lead	7439-92-1	231-106-7	0.0066%
Cadmium	7440-43-9	231-152-8	0
Potassium Hydroxide and Sodium Hydroxide	\	\	~4%
Distilled Water	7732-18-5	\	~7%
Iron	7439-89-6	\	~46%
Others	\	\	Balance

Section III – Physical/Chemical Characteristics

Form N.A.	Specific Gravity (H2O =1) N.A.
Boiling Point N.A.	Melting Point
Vapor Pressure (mm Hg) N.A.	Evaporation Rate (Buty1 Acetate=1) N.A.
Vapor Density (AIR=1) N.A.	pH N.A.
Solubility in Water N.A.	Appearance and Odor N.A.

Section IV-Hazard Classification

N.A.

Section V – Reactivity Data

Stability Yes= (X)	Unstable ( )	Conditions to Avoid
	Stable (X)	

Incompatibility (Materials to Avoid)

Hazardous Decomposition or By products

When heated, battery may emit hazardous vapour of KOH / NaOH and Hg

Hazardous Reactions Yes = (X)	May Occur ( )	Conditions to Avoid
	Will Not Occur (X)	

Section VI – Health Hazard Data

Route(s) of Entry Yes = (X)	Inhalation?	Skin?	Ingestion?
	(N.A.)	(N.A.)	(N.A.)

Health Hazard (Acute and Chronic) / Toxicological in formation

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

Firs 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 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)	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 IX – Accidental Release or Spillage

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leaking 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 – Handing and Storage

Safe handing 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.

The maximum temperature allowed is 60℃ for a short period during the shipment , Otherwise the cells maybe leakage and can result in shortened service life.

Section XI – Exposure Controls / Personal 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

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 61th 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 dangerous quantities of heat and meet the special provisions listed above. In addition, the 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 XV – Regulatory Information

Special requirement be according to the local regulatory.

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.

Model No.	IEC
A76 / A76P	LR44
162	LR58
164	LR621
171	LR69
177	LR626SW
186	LR1142
189	LR54
189E	LR54
191	LR1120
192	LR41
PX625A	LR9
10A	\
11A	\
23A	\
23AE / 23AL	\
29A	\
26A	\
27A	\
476A	4LR44
220A	10F15