GP Batteries

Material Safety Data Sheet *Model No.:GP776285M285*

IDENTITY (As Used on Label and List) Nickel Zinc	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 GPI International Ltd.	Emergency Telephone Number
Address (Number, Street, City State, and ZIP Code) 8/F GP Building, 30 Kwai Wing Road,	Telephone Number for information 852-2484-3333
Kwai Chung, N.T. H.K.	Date of prepared and revision Mar 30, 07
	Signature of Preparer (optional)

Section II - Hazardous Ingredients / Identity Information

Hazardous Components:

Description:	Approximate % of total weight	
Lithium Manganese Oxide($LiMnO_2$)	25.4	Wt%
Graphite (C)	14.2	Wt%
Organic solvent	12.0	Wt%
Weight of aggregated Lithium contents or aggregated lithium equivalent contents per cell	<0.9g	
	:	

Section III - Physical / Chemical Characteristics

Boiling Point N.A.	Specific Gravity (H_2O=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)	Flammable Limits	LEL	UEL
N.A.	N.A.	N.A.	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

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 VI - Health Hazard Data

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

Health Hazard (Acute and Chronic) / Toxiclogical 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)	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 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		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 XII – Ecological Information

N.A.

Section XIII – Disposal Method

Dispose of batteries according to government regulations.

Section XIV – Transportation Information

In general, the transportation of primary lithium cells and batteries is regulated by the International Civil Aviation Organization, International Air Transport Association, International Maritime Dangerous Goods Code and the US Department of Transportation. The batteries must meet the following criteria for shipment:

- For air shipments, meet the requirements listed in Special Provision A45 of the International Air Transport Association Dangerous Goods Regulations.
- Meet the requirements for the US Department of Transportation listed in 49 CFR 17.185.
- With limited exceptions, the transport of primary lithium batteries is prohibited aboard passenger aircraft. Refer to December 15, 2004 Federal Register (Hazardous Materials; Prohibition on the Transportation of Primary Lithium Batteries and cells Aboard Passenger Aircraft; Final Rule) for additional rules that became effective on December 29, 2004.

By complying with the requirements specified above, Lithium Batteries are not otherwise regulated as Dangerous Goods.

Lithium Batteries manufactured, packed and shipped by GP meet the requirements specified above. Any Lithium Batteries subsequently repackaged or reshipped are required to meet all of the requirements specified above.
Non-dangerous good.

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.