GP Batteries

Material Safety Data Sheet for GP Lithium battery (Lithium Metal Battery)

IDENTITY (As Used on Label and List) Lithium Metal batteries	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 1- Identification

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 Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887
Kwai Chung, N.T. H.K.	Date of prepared and revision Jan 1, 2015
	Signature of Prepare (optional)

Section 2 – Hazards Identification

Classification:

N.A.

Section 3 – Composition/Information On Ingredients

Hazardous Components:

Description:	CAS Number	Approximate % of total weight
Lead	7439-92-1	<0.004 Wt%
Mercury	7439-97-6	<0.0005 Wt%
Cadmium	7440-43-9	<0.002 Wt%
Lithium	7439-93-2	1.2-6.7 Wt%

SVHC Substances according to REACH (Article 33)		
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	> 0.1 Wt%

Section 4 – 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 5 – Fire-Fighting Measures

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 6 – Accidental Release Measures

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 7 – 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.

The cells and batteries shall not be stored in high temperature ,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 8– Exposure Controls / Person Protection

Occupational Exposure Limits:	LTEP	STEP
	N.A.	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.		

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Section 9 - Physical / Chemical Properties

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 10 – Stability and Reactivity

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 11 – Toxicological Information

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 12 – Ecological Information

N.A.

Section 13 – Disposal Considerations

Dispose of batteries according to government regulations.

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Section 14 – 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 lithium batteries are compliant with these regulatory concerns.

GP lithium manganese dioxide batteries are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. (Essentially, they are properly packaged and labeled, contain less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

Regulatory Body	Special Provisions
ADR	188, 230, 310, 636, 656
IMDG Code 36-12	188, 230, 310, 957
UN	UN 3090, UN 3091
US DOT	29, A54, A100, A101
ICAO, IATA 56th edition	Packaging Instructions 968 - 970
Transport Canada TDG	34

WEIGHT OF LITHIUM FOR LITHIUM BATTERY

Battery type	Model	Weight of cell (g)	Aggregated lithium equivalent content (g)
Cell	GPCR2	10	0.27
	GPCR1/3N	2.3	0.06
	GPCR14250	10	0.27
	GPCR123A	16	0.56
	GP15LF	14.5	0.96
Battery	GPCR-P2	37	1.12
	GP2CR5	37	1.12
	GPCR-V9	34	0.81

** The battery models meet the UN manual of Tests and Criteria, Part III, Sub-section 38.3 **

Section 15 – Regulatory Information

Special requirement be according to the local regulatory.

Section 16 – Other Information

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

Section 17 – 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.