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

IDENTITY (As Used on Label and List) Photo Lithium battery (Lithium Metal Battery)	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 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 January 17, 2011
	Signature of Preparer (optional)

Section II - Hazardous Ingredients / Identity Information

Hazardous Components:

Description:	CAS Number	Approximate % of total weight
Lead	7439-92-1	<0..004 Wt%
Mercury	7439-97-6	<0.0001 Wt%
Cadmium	7440-43-9	<0.001 Wt%
Lithium	7439-93-2	2.7-3.3 Wt%

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 – Hazard Classification

Classification
N.A.

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 Entry	Inhalation?	Skin?	Ingestion?
	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.

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 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

All GP lithium Photo batteries (Lithium Metal Battery) comply to the necessary requirements under the UN Manual of Tests and Criteria as referenced in the following transportation regulations:

1. UN Recommendations on the Transport of Dangerous Goods Model Regulations
2. U.S. Department of Transportation hazardous materials regulations (HMR),
3. International Civil Aviation Organization (ICAO) Technical Instructions,
4. International Air Transport Association (IATA) Dangerous Goods Regulations, Partially Regulated DG section II of PI 968 and
5. International Maritime Dangerous Goods (IMDG) Code. Special Provision 188, Special Provision 230 & Special Provision 903

GP lithium Photo Batteries are exempted from these regulations since they meet all UN Testing requirements and not exceed 1g lithium equivalent for single cell and 2g lithium equivalent for battery. (UN3090.) Non-dangerous Goods.

All GP lithium Photo battery (Lithium Metal Battery) packaging comply with Partially regulated DG. section II of PI 968.

Cells & batteries should be packaged in accordance with these transportation regulations. It is especially important to ensure that cells & batteries are packed in such a way to prevent short circuits.

** The commodity is met the UN manual of Tests and Criteria, Part III, Sub-section 38.3 **Non-dangerous goods.

Such battery have been packed in inner packaging in such a manner as to effectively prevent short circuit and movement that could lead to short circuit.

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.

WEIGHT OF LITHIUM FOR LITHIUM BATTERY

Battery type	Model	Weight of cell (g)	Aggregated lithium equivalent content (g)
Cell	GPCR123A	17	0.6
	GPCR2	12	0.33
	GPCR1/3N	2.3	0.06
	GPCR14250	9	0.3
	GPCR14500	17	0.66
Battery	GPCR-P2	37	1.14
	GPCR-V3	38	1.32
	GP2CR5	40	1.08
	GPCR-V9	34	0.9