Golden Power Corporation (HK) Ltd.

Ref.No.:GPMSDS-G6F22-2015A

Material Safety Data Sheet

IDENTITY (As Read on Label and Line)	Notice: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
G6F22 LONG LIFE BATTERY	

Section I

Manufacturer's Name	Telephone Number
Golden Power Corporation (HK) Ltd.	(852) 3125 2288
Address (Number, Sheet, City, State, and ZIP Code)	Fax Number (852) 3125 2000 / 3125 2001
Flat C, 20/F., Block 1, Tai Ping Industrial Centre, 57 Ting Kok Road, Tai Po, N.T., Hong Kong	Date Prepared **05-Jan-2015**
	Signature of Preparer (optional)

Section II – Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Names)		(contents, %/wt)	CAS No.
Manganese Dioxide	(MnO_2)	28.88%	1313-13-9
Acetylene Black	(C_2H_2)	5.25 %	74-86-2
Zinc	(Zn)	8.75 %	7440-66-6
Zinc Chloride	($ZnCl_2$)	4.16 %	7646-85-7
Ammonium Chloride	(NH_4Cl)	8.70 %	12125-02-9
Mercury	(Hg)	<0.0001 %	7439-97-6
Lead	(Pb)	0.025 %	7439-92-1
Cadmium	(Cd)	<0.0005%	7440-43-9

Section III – Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H_2O=1)	
$ZnCl_2$ & NH_4Cl aqua solution = 104 °C		Zn = 7.1, $ZnCl_2$ = 2.91, NH_4Cl = 2.0	
Vapor Pressure (mmHg) $ZnCl_2$ aqua solution = 3mmHg at 20 °C NH_4Cl aqua solution = 2mmHg at 20 °C		Melting Point MnO_2 decompose at 535°C, Zn = 420 °C $ZnCl_2$ & NH_4Cl aqua = –2 °C	
Vapor Density (Air = 1)		Evaporation Rate (Butyl Acetate = 1)	

Solubility in Water $ZnCl_2$ & NH_4Cl – complete

Appearance and Color

MnO_2 is a black powder, Acetylene Black is also a black powder, and Zinc is a silver metal.
$ZnCl_2$ & NH_4Cl aqua is a colorless liquid with stimulative order.

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Incombustible	Not Available		

Extinguishing Media: See Special Fire Fighting Procedure

Special Fire Fighting Procedure: In case of fire in an adjacent area, use water, CO_2 or dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products. For bulk quantities of unpackaged cells use LITH-X (Graphite Base). In this case, do not use water.
As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products.

Unusual Fire and Explosion Hazards

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid Do not short circuit, charge or dispose of in fire.
	Stable	√	
Incompatibility (Materials to Avoid)			Hazardous polymerization will not occur.
Hazardous Decomposition or Byproducts			Not Available
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	√	

Section VI – Health Hazard Data

Route(s) of Entry.	Inhalation?	Yes	Skin?	Yes	Ingestion? Yes
Health Hazards (Acute and Chronic)	These chemicals are contained in a sealed can. Risk of exposure occurs, only if battery is mechanically or electrically abused. The most likely risk is acute exposure when a cell vents Zn - NH_4Cl is acidic and attack the skin and eyes. Contact of electrolyte with skin and eyes should be avoided.				

Section VII – Ecological Information

Cardnogenicity	NTP? Not Available		IARC Monographs? Not Available		OSHA Regulated? Not Available
Signs and Symptoms of Exposure	$ZnCl_2$ & NH_4Cl can cause chemical burn upon contact with skin.				
Medical Conditions Generally Aggravated by Exposure	An acute exposure will not generally aggravate any medical help.				

Section VIII –Emergency and First Aid Procedures

In case of skin contact with content of battery, flush immediately with water.
For eye contact, flush with copious amount of water for 10 minutes. If imitation persists, get medical help.

Section IX - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled — Wipe out by wet duster.

Section X - Waste Disposal Method

General abandonment

Section XI - Precautions to Be Taken in Handling and Storing

Avoid mechanical or electrical abuse.

Section XII - Other Precautions

Do not short circuit, charge or dispose of in fire. Battery may explode or leak.

Section XIII - Control Measures

Respiratory Protection (Specify Type) — Not Available

Ventilation	Local Exhaust Not Available	Special Not Available
	Mechanical (General) Not Available	Other Not Available

Protective Gloves	Butyl	Eye Protection	Safety Glasses

Other Protective Clothing or Equipment
Not Available

Work / Hygienic Practices
Not Available

Section XIV – Regulatory Information

Not Available

Section XV – Other Information

Not Available

Section XVI – Transportation Information

Golden Power **G6F22** LONG LIFE BATTERY are considered to be "dry cell" batteries and are not listed as dangerous goods under below regulations:

1. Batteries, dry fulfills the requirement of U.S. Department of Transportation (DOT), Special Provision 130, i.e. they are offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals or batteries to be packed in such a way to prevent short circuits or generation of a dangerous quantity of heat.)".

2. International Civil Aviation Administration (ICAO) and International Air Transport Association (IATA), Special Provision A123, i.e. "An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals or batteries to be packed in such a way to prevent short circuits or generation of a dangerous quantity of heat.) is forbidden from transportation."

3. IATA Dangerous Goods Regulation (DGR) 55th Edition 2014 edition does not regulate these batteries.

Examples of such batteries include alkali-manganese, silver oxide, zinc carbon, nickel metal hydride and nickel-cadmium batteries.