

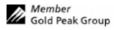
Material Safety Data Sheet for GP Cylindrical Alkaline Battery

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IDENTITY (As Used on Label and List) Alkaline battery	Note: Blank spaces are not permit marked to indicate that.	tted if any item is not app	olicable or no information	is available, the space must be
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 informatio	n 852-2484-3333		
Kwai Chung, N.T. H.K.	Date of prepared and revision March 1, 2010 Signature of Prepare (optional)			
Section II - Hazardou	<u> </u>	y Information		
Hazardous Components:				
Description:	CAS#	EINECS No.	Approxima	ate % of total weight
Lead	7439-92-1	231-106-7	<0.004Wt9	
Mercury	7439-97-6	231-106-7	<0.0001W	
Cadmium	7440-43-9	231-152-8	<0.002Wt	t%
Manganese Dioxide	1313-13-9	215-202-6	~40Wt%	
Zinc Metal	7440-66-6	231-175-3	~16Wt%	
Potassium hydroxide	1310-58-3	215-181-3	~18Wt%	_
Section III - Physical /	Chemical Characteristics	<u> </u>		
Boiling Point	Specific Gravity (H ₂ O=1)	<u> </u>		
N.A.	specific Gravity (1120-1)	N	ſ.A.	
Vapor Pressure (mm Hg)	Melting Point			
N.A.		N	.A.	
Vapor Density (AIR=1) N.A.	Evaporation Rate (Butyl Acetate)	N	ſ.A.	
Solubility in Water N.A.		1,		
Appearance and Odor				
Opation IV Hammel		drical Shape, odorless		
Section IV -Hazard (Jiassification			
Classification N.A.				



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Section V	Reactivit	v Data						
Stability	Unstable		Condition	ns to Avoid				
	Stable	37						
	<u> </u>	X						
Incompatibility (Materials to Avoid	d)						
Hazardous Deco	mposition or Bypr	oducts						
	Table 2	T	I					
Hazardous Polymerization	May Occur		Condition	ns to Avoid				
	Will Not Occur	Х						
	ļ.		<u> </u>					
Section VI	- Health H	azard Data						
Route(s) of		Inhalation?		Skin?	Ingestion?			
Entry			N.A	A .	N.A.	N.A.		
Health Hazar	d (Acute and C	Chronic) / Toxio	clogical	information				
In case of	of electrolyte leaka	age, skin will be ito	chy when c	ontaminated with electrolyte).			
In conta	ct with electrolyte	can cause severe i	rritation ar	nd chemical burns.				
Inhalatio	on of electrolyte v	apors may cause ir	ritation of	the upper respiratory tract ar	d lungs.			
Section VI	I – First Aid	d Measures						
First Aid Prod	cedures							
				in, wash with plenty of wate				
					fifteen (15) minutes, and con			
If electro	olyte vapors are in	haled, provide fres	sh air and s	eek medical attention if resp	iratory irritation develops. V	entilate the contaminated area.		
Section VIII - Fire and Explosion Hazard Data								
Flash Point (Met	hod Used)	Ignition Temp.		Flammable Limits	LEL	UEL		
	Α.	N.A.		N.A.	N.A.	N.A.		
Extinguishing M								
		mical or Foam exti	nguishers					
Special Fire Figh	ting Procedures							
N.A.								
Unusual Fire and Explosion Hazards								
	• •	in fire - may explo						
Do not s	snort-circuit batter	y - may cause burr	IS.					





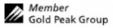
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Section IX – Accidental Release or Spillage Steps to Be Taken in Case Material is Released or Spilled Batteries that are leakage should be handled with rubber gloves. Avoid direct contact with electrolyte. Wear protective clothing and a positive pressure 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: 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. 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.





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Section XIV - Transportation Information

GP batteries are considered to be "Dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states: "Batteries, dry are not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). The only requirements for shipping these batteries by ICAO and IATA is Special Provision A123 which states: "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) is forbidden from transportation." The international Maritime Dangerous Goods Code (IMDG) regulate them for ocean transportation under Special Provision 304 which says: Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provision of this Code provided the batteries are securely packed and protected against short-circuits. Example of such batteries are: alkali-manganese, zinc-carbon, nickel metal hydride and nickel-cadmium batteries.

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.

