GP Batteries

Material Safety Data Sheet For NiMH Batteries

IDENTITY (As Used on Label and List) Nickel Metal Hydride 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 – Information of Manufacturer

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 1st Nov.2007
	Signature of Preparer (optional)

Section II - Hazardous Ingredients / Identity Information

Hazardous Components:

Hazardous Components:

A) The content of elements are based on homogeneous materials level of NiMH battery:

Element	Lead	Cadmium	Hexavalent Chromium (Cr^{6+})	Mercury	Polybrominated Biphenyls (PBBs)	Polybrominated Diphenyls Ethers (PBDEs)
Limit (mg/kg)	<1000	<100	<1000	<1000	<1000	<1000
CAS no.	7439-92-1	7440-43-9	18540-29-9	7439-97-6	59536-65-1	---

B) The content of elements are based on total weight of NiMH battery:

Element	Lead	Cadmium	Hexavalent Chromium (Cr^{6+})	Mercury	Polybrominated Biphenyls (PBBs)	Polybrominated Diphenyl Ethers (PBDEs)
Limit (mg/kg)	<40	<20	<5	<5	Nil	Nil

Element	Ni(OH)2 (Nickel Hydroxide)	30% KOH Solution (Potassium Hydroxide)	30% NaOH Solution (Sodium Hyroxide)
Limit (wt%)	<30%	<20%	<20%
CAS no.	12054-48-7	1310-58-3	1310-73-2

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 can be used for battery BUT water extinguisher is not suitable.

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 -20°C and 35°C for prolong storage.
When the cells are closed to fully charged, the storage temperature should be between -20°C and 30°C and should be controlled at 10-20°C during transportation and packed with efficient air ventilation.

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

NiMH 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). As of 1/1/97 IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting. NiMH batteries are 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 Carbon Dioxide, Dry Chemical or Foam extinguishers 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.