

Material Safety Data Sheet For NiMH Batteries

Document Number: RRS0541

Revision: 10

Page 1 of 5

IDENTITY (As Used on Label and List)	Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space
Nickel Metal Hydride Battery	must be marked to indicate that.
Section I – Information of Man	ufacturer
Manufacturer's Name	Emergency Telephone Number
GPI International Ltd.	
Address (Number, Street, City State, and ZIP	Telephone Number for information
Code)	852-2484-3333
8/F GP Building, 30 Kwai Wing Road,	
	Date of prepared and revision
Kwai Chung, N.T. H.K.	26th Oct 2011
	Signature of Preparer (optional)
Address (Number, Street, City State, and ZIP Code) 8/F GP Building, 30 Kwai Wing Road,	Big 852-2484-3333 Date of prepared and revision 26th Oct 2011

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	Mercury	Polybrominated	Polybrominated Diphenyls Ethers
			Chromium (Cr ⁶⁺)		Biphenyls (PBBs)	(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		ım	Hexavalent		Mercury	Polybrominated	Pol	ybrominated Diphenyl Ethers
				Chromium (Cr ⁶⁺)		Biphenyls (PBBs)	(PI	BDEs)
Limit (mg/kg)	<40	<20		<5		<5	Nil	Ni	1
Element	Ni(OH)2 (Nick Hydroxide)	el	30% KOH (Potassium			aOH Solution	Non-Hazardous	Materials	
Limit (wt%)	<30% <20%		<20%		6	<30%		_	
CAS no.	AS no. 12054-48-7 1310-58-3		1310	-73-2			-		

Section III - Physical / Chemical Characteristics

Boiling Point	Specific Gravity (H ₂ O=1)
N.A.	N.A.
Vapor Pressure (mm Hg)	Melting Point
N.A.	N.A.
Vapor Density (AIR=1)	Evaporation Rate (Butyl Acetate)
N.A.	N.A.
Solubility in Water	
N.A.	
Appearance and Odor	

Cylindrical Shape, odorless

Section IV – Hazard Classification

Classification

N.A.

Member Gold Peak Group

GP Batteries Material Safety Data Sheet For NiMH Batteries

Section V – Reactivity Data Stability Unsuble Conditions to Avoid Incompatibility (Materials to Avoid) Incompatibility (Materials to Avoid) Harardous Decomposition or Byproducts Incompatibility (Materials to Avoid) Harardous May Occur Conditions to Avoid Harardous May Occur Conditions to Avoid Bardon X Incompatibility (Materials to Avoid) Harardous May Occur Conditions to Avoid Boute(s) of Inhalation? Skin? Route(s) of Inhalation? Skin? Incase of electrolyte leakage, skin will be lichy when contaminated with electrolyte. In case of electrolyte leakage, skin will be lichy when contaminated with electrolyte. In case of electrolyte vapors may cause irritation and chenical 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 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 N.A. N.A. <th colspan="3">Document Number: RRS0541</th> <th></th> <th>Revision</th> <th></th> <th colspan="2">Page 2of 5</th>	Document Number: RRS0541				Revision		Page 2of 5	
Stability Unstable Conditions to Avoid Stable x Incompatibility (Materials to Avoid) Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Will Not Occur x Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Eary 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 vapors may cause 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 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. </th <th>Section V</th> <th>Poactivity</th> <th>v Data</th> <th></th> <th></th> <th></th> <th></th> <th></th>	Section V	Poactivity	v Data					
Stable x Incompatibility (Materials to Avoid) Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Hazardous Occur Conditions to Avoid Belleric Conditions to Avoid Will Not Occur x Section VI - Health Hazard Data Roarce(s) of Inhalation? Skin? Ingestion? Entry 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 causes and makes contact with skin, wash with plenty of water immediately. If electrolyte causes are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area. Section VII – Fire and Explosion Hazard Data N.A. N.A. Flash Point (Method Used) Ignition Temp. Flammable Limits LEL UEL N.A. Section VIII - Fire and Explosion Hazard Data N				Condition	as to Avoid			
Incompatibility (Materials to Avoid) Hazardous Decomposition or Byproducts Bayer Decomposition or Byproducts Rotate(s) of Inhalation? Na Section VI - Health Hazard Data Rotate(s) of Inhalation? NA NA NA Health Hazard (Acute and Chronic) / Toxiclogical information In case of electrolyte leakage, skin will be tichy when contaminated with electrolyte. In contact with electrolyte can cause severe irritation and chemical burns. Inhalation of electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately. If electrolyte comes into contact with eyes, wash with opions amounts of water for fifteen (15) minutes, and contact a physician. If electrolyte comes into contact with eyes, wash with opions amounts of water for fifteen (15) minutes, and contact a physician. If electrolyte comes into contact with eyes, wash with opions amounts of water for fifteen (15) minutes, and contact a physician. If electrolyte vapors are inhaled, provide fresh air and seek medical attention if repiratory irritation develops. Ventilate the contami	Stability	Clistable		Condition	is to Avoid			
Incompatibility (Materials to Avoid) Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Hazardous Decomposition or Byproducts Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Eatry N.A. N.A. N.A. N.A. N.A. Health Hazard (Acute and Chronic) / Toxiclogical information In case of electrolyte leakage, skin will be lichy when contaminated with electrolyte. In contact with electrolyte can cause severe irritation and chemical burns. Inhalation of electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately. 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 - First Aid Measures First Aid Procedures If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately. If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area. Section VIII - First and Explosion Hazard Data Fish Point (Method Used) Ignition Temp. Fianmable Limits N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A.		Stable						
Hazardous Decomposition or Byproducts Hazardous May Occur A Orditions to Avoid Orditions Ordition Orditio Ordition Ordition O								
Hazardous May Occur Conditions to Avoid Polymerization Will Not Occur x Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Route(s) of Inhalation? N.A. 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 Section VII - First Aid Measures First Aid Procedures 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 Imamable Limits LEL UEL N.A. N.A. N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Carbon Dixide, Dry Chemical or Foam extinguishers can be used for battery BUT water extinguisher is not suitable. Special Fire Fighting Procedures N.A. N.A. N.A. N.A. N.A.<	Incompatibility ((Materials to Avoid	d)					
Hazardous May Occur Conditions to Avoid Polymerization Will Not Occur x Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Route(s) of Inhalation? N.A. 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 Section VII - First Aid Measures First Aid Procedures 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 Imamable Limits LEL UEL N.A. N.A. N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Carbon Dixide, Dry Chemical or Foam extinguishers can be used for battery BUT water extinguisher is not suitable. Special Fire Fighting Procedures N.A. N.A. N.A. N.A. N.A.<	Hazardous Deco	mposition or Bypr	oducts					
Polymerization Image: Control of the state state of the state of the state state of the s		inposition of Dypr	ouuers					
Will Not Occur X Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Entry N.A. 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. 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 leakage occurs and makes contact with skin, wash with plenty of water irritation develops. Ventilate the contaminated area. If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area. If electrolyte vapors are inhaled. provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area. Kath Point (Method Used) Ignition Temp. Flammable Limits LEL UEL N.A. N.A.	Hazardous	May Occur		Condition	ns to Avoid			
Section VI - Health Hazard Data Route(s) of Inhalation? Skin? Ingestion? Earry N.A. N.A. N.A. Health Hazard (Acute and Chronic) / Toxiclogical information In case of electrolyte leakage, skin will be lichy when contaminated with electrolyte. In contact with electrolyte can cause severe irritation and chemical burns. In contact with electrolyte can cause severe irritation of the upper respiratory tract and lungs. Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs. Section VII – First Aid Measures First Aid Procedures If electrolyte enase 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. MA. N.A. N.A. N.A. N.A. N.A. Section DVIII - Fire and Explosion Hazard Data Flash Point (Method Used) Ignition Temp. Malatorian Flammable Limits LEL N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Section Procedures N.A. N.A. N.A. N.A. N.A.	Polymerization	Will Not Occur						
Route(s) of Inhalation? Skin? Ingestion? Entry N.A. 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 can cause severe irritation of the upper respiratory tract and lungs. 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 LEL UEL N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Initiation of Foam extinguishers can be used for battery BUT water extinguisher is not suitable. N.A. Special Fire Fighting Procedures N.A. N.A. N.A. N.A. Special		will Not Occur	Х					
Route(s) of Inhalation? Skin? Ingestion? Entry N.A. 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 can cause severe irritation of the upper respiratory tract and lungs. 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 LEL UEL N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Initiation of Foam extinguishers can be used for battery BUT water extinguisher is not suitable. N.A. Special Fire Fighting Procedures N.A. N.A. N.A. N.A. Special			1	1				
Route(s) of Inhalation? Skin? Ingestion? Entry N.A. 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 can cause severe irritation of the upper respiratory tract and lungs. 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 LEL UEL N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A. Section VIII - Fire and Explosion Hazard Data Initiation of Foam extinguishers can be used for battery BUT water extinguisher is not suitable. N.A. Special Fire Fighting Procedures N.A. N.A. N.A. N.A. Special	Soction V	L - Hoalth H	azard Data					
Entry 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 case of electrolyte leakage, skin will be itchy when contaminated with electrolyte. In contact with electrolyte can cause severe irritation and chemical burns. In halation of electrolyte can cause severe irritation of the upper respiratory tract and lungs. In contact with electrolyte vapors may cause irritation of the upper respiratory tract and lungs. Section VII – First Aid Measures First Aid Procedures First Aid Procedures If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately. If electrolyte ones 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 Ignition Temp. Flammable Limits LEL UEL N.A. 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. N.A. N.A. N.A. N.A. N.A. N.A.					Skin?	Inc	pestion?	
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 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. N.A. N.A. N.A. N.A. Stringuishing Media N.A. Carbon Dioxide, Dry Chemical or Foam extinguishers can be used for battery BUT water extinguisher is not suitable. Special Fire Fighting Procedures N.A. N.A. Do not dispose of battery in fire - may explode.				N.A				N.A.
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) N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A	·	d (Acute and C	Thronic) / Toxi					
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 leakage occurs and makes contact with skin, wash with plenty 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) N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A	i icaitii i iazai	u (Acute anu C		logical I	information			
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 leakage occurs and makes contact with skin, wash with plenty 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) N.A. N.A. N.A. N.A. N.A. N.A. N.A. N.A	In anga	of algotrolyte looks	and akin will be it	hu when a	onteminated with algetre	luto		
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) N.A. Ignition Temp. 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.			-	-		nyte.		
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 IEEL UEL N.A. N.A. N.A. N.A. 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. N.A. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.						. 11		
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. 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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode. Do not dispose of battery in fire - may explode.	Inhalati	on of electrolyte va	apors may cause ir	ritation of t	the upper respiratory trac	t and lungs.		
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. 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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode. Do not dispose of battery in fire - may explode.								
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. 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.	Section V	II – First Aic	d Measures					
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. 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.	First Aid Pro	cedures						
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. 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.								
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. 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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode. Special Spe						-		
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. 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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode. Special Specia								
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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.	If electr	olyte vapors are in	haled, provide free	sh air and s	eek medical attention if	respiratory irritation dev	elops. Ventilate the contami	inated area.
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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.								
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. N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.	Section V	III - Fire and	d Explosion	Hazar	d Data			
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.				Tiazai		LEL	UEL	
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.	Ν	.A.	N.A.		N.A.	N.A.	Ν	I.A.
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.	Extinguishing M	Iedia						
Special Fire Fighting Procedures N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.			mical or Foam exti	nguishers o	can be used for battery B	UT water extinguisher i	s not suitable.	
N.A. Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.				0	,			
Unusual Fire and Explosion Hazards Do not dispose of battery in fire - may explode.								
Do not dispose of battery in fire - may explode.		d Explosion Hazard	ds					
		-		de				
			• •					

Member Gold Peak Group

GP Batteries Material Safety Data Sheet For NiMH Batteries

Document Number: RRS0541 Revision: 10 Page 3of 5 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°C for a short period during the shipment , Otherwise the cells maybe leakage and can result in shortened cycle 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.

Member Gold Peak Group



Document Number: RRS0541

Revision: 10

Page 4of 5

Section XIV – Transportation Information

a) 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 nickel metal hydride batteries has been designed to be compliant with these regulatory concerns.

GP nickel metal hydride batteries (sometimes referred to as "Dry cell" batteries) are not defined as dangerous goods under the IATA Dangerous Goods Regulations. ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations as they are compliant with the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	295 - 304, 598
IMO	UN 3496 SP117 and SP963
UN	UN 3496
US DOT	49 CFR 172, 102 Provision 130
IATA	A123
ICAO	UN 3496

In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

b) International Maritime Organization (IMO) IMDG Code regulated these products as UN 3496 BATTERIES, NICKEL METAL HYDRIDE, class 9 dangerous goods with Special Provision 117 and 963 assigned

SP117

Only regulated when transported by sea.

SP963

Nickel-metal hydride button cells or nickel-metal hydride cells or batteries packed with or contained in equipment are not subject to the provisions of this Code.

All other nickel-metal hydride cells or batteries shall be securely packed and protected from short circuit. They are not subject to other provisions of this Code provided that they are loaded in a cargo transport unit in a total quantity of less than 100 Kg gross mass. When loaded in a cargo transport unit in a total quantity of 100 Kg gross mass or more, they are not subject to other provisions of this Code except those of 5.4.1, 5.4.3 and column (16) of the dangerous good list in Chapter 3.2.

The requirements of these sections are:

(1) dangerous goods transport documentation to accompany the shipment,

(2) the shipment must be described as "UN3496, BATTERIES, NICKEL-METAL HYDRIDE, CLASS 9" on the shipper's declaration for dangerous goods.

(3) the dangerous goods description must also be entered on the Dangerous Cargo Manifest and/or the detailed stowage plan in compliance with the IMDG Code requirements for shipboard documentation.

Member Gold Peak Group

GP Batteries

Material Safety Data Sheet For NiMH Batteries

Document Number: RRS0541

Revision: 10

Page 5of 5

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.