Applicant	:	SHENZHEN HIGHPOWER TECHNOLOGY CO.,LTD.
Address	:	Luoshan Industrial Zone, PingHu, LongGang, ShenZhen, GuangDong, China

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Name	:	NICKEL METAL HYDRIDE BATTERY
Mode	:	AA
Composition	:	Please refer to section 3 — Composition/information on ingredients
Sample Received Date	:	December 16,2011
Period of making report	:	December 16,2011 to December 21,2011
Making requested	:	According to requirement of client making the safety data sheet (SDS) for Submitted products
Making Method	:	According to the Directive 67/548/EEC,1999/45/EC,1272/2008/EC, 1907/2006/EC 453/2010/Eu and ISO 11014-2009
Remark	:	—

Tested By : Terry Inspected By : Lan Approved By : Henry

Huesent Testing Service Co., Ltd. Guangzhou HST

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Safety Data Sheet

Section 1 — Chemical product and company identification

Product name : NICKEL METAL HYDRIDE BATTERY
Supplier : SHENZHEN HIGHPOWER TECHNOLOGY CO.,LTD.
Address : Luoshan Industrial Zone, PingHu, LongGang, ShenZhen, GuangDong, China
UN No : 3496

Telephone number : 86-755-89686091 Emergency telephone number : 86-755-89686091
E-mail : mjxu@highpowertech.com Fax : 86-755-89686916

Section 2 — Hazards identification

Health hazards(Acute and chronic) of battery

◆Chemicals are contained in a sealed can, risk of exposure occurs only if the battery is mechanically or electrically abused, contact of electrolyte and extruded substance with skin and eyes should be avoided

Sign /symptoms of exposure

◆A shorted battery can cause thermal and chemical burns contact with the skin, may be a reproductive hazard

◆Note : Potassium hydroxide can be release if the battery case is damaged or if the vents are opened in use.

◆Potassium hydroxide is a strong corrosive. Contact with alkali can cause severe burns on the skin and in the eyes. Potassium hydroxide will cause tract burns.

Section 3 — Composition/information on ingredients

No	Ingredients Name	Content(%)	No	Ingredients Name	Content(%)
1	Nickel ,Nickel hydroxide	About 32%	5	Potassium hydroxide	About 4%
2	Cobalt	About 3%	6	PP fiber Separator	About 8%
3	Iron	About 10%	7	Nylon	About 3%
4	Hydrogen absorbing allo (Ni, La, Ce, Pr, Nd, Mn, Al, Co)	About 38%	8	Other	About 2%

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Section 4 — First-aid measures

Eyes

◆Flush eyes with plenty of water for at least 15minutes, occasionally lifting the upper and lower eyelids, get medical aid

Skin

◆Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes, get medical aid

Inhalation

◆Remove from exposure and move to fresh air immediately. Use oxygen if available

Ingestion

◆Give at least 2 glassed of milk or water ,induce vomiting unless patient is unconscious ,call a physician

Section 5 — Fire-fighting measures

Extinguishing media:

◆Water spray ,Carbon dioxide ,Dry chemical powder, or appropriate foam

Fire fighting:

◆Alert emergency responders and tell them location and nature or hazard

◆Wear breathing apparatus plus protective gloves

◆Use water delivered as a fine spray to control fire and cool adjacent area

Unusual fire and explosion hazards

◆Cell may vent when subjected to excessive heat-exposing battery contents

Hazardous decomposition products:

◆CO,CO_2 ,metal oxide ,irritate fume and toxic gas

Section 6 — Accidental release measures

Steps to be taken in case material is released or spilled

◆If the battery material is released, remove personnel from area until fumes dissipate, provide maximum.

ventilation to clear out hazardous gases, wipe it up with cloth, and displace of it in a plastic bag and put into a seal can, the preferred response is to leave the area and allow the battery to cool and vapors to dissipate, provide maximum ventilation, avoid skin and eye contact or inhalation of vapors, remove spilled liquid with absorbent an incinerate

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◆If potassium hydroxide liquid is spilled from a battery, neutralize the alkali with boric acid flush the area with water discard to the sewage systems. Do not allow unneutralized alkali into the sewage system.

Environmental precautions :

◆It is recommended to discharge the battery to the end, handing it to the related department unified dispose of the batteries in accordance with approved local, state, and federal requirements, consult state environmental protection agency and /or federal EPA

Section 7 — Handling and storage

Handling

Please read carefully the following important precautions before the first time use of Ni-MH batteries. Make sure to understand and observe all cautionary instructions stated vide infra, so as to avoid any possible safety hazards that are caused by any misuse, misapplication or damage to Ni-MH batteries.

◆Never heat or dispose of batteries in fire, which or else, may cause burst or leakage

◆Never disassemble the battery. The alkaline electrolyte is strongly corrosive and may cause personal injury

◆Never short-circuit batteries

◆Never apply battery into a airtight compartment or sealed container

◆Never swallow batteries.

◆Do not insert batteries with their polarities reversed

◆Do not mix old and new batteries together, neither with NI-MH, dry batteries or another

◆manufacturer's batteries. Differences in various Characteristics may cause damage to batteries or product.

◆Do not use the battery again if it is leaking, deformed or abnormal in any other way

◆Do not apply water to battery or put battery in water, which causes the battery to cease function

◆Do not throw away battery when the life cycle is finished. Use the recycle dustbin for collecting the battery

◆Be sure to use the specified charger for battery, and follow the charging instructions correctly.

◆Be sure to charge the batteries prior to use.

◆Always keep battery out of reach of babies or smaller children. Children should not use the rechargeable batteries unless they are informed of and fully understand the appropriate usage

◆When two or more batteries are to be used together, be sure to charge all the batteries together at the same time before use.

Storage

◆Store NI-MH batteries in a location with low humidity, no corrosive gases ,no sunlight and below 30°C.Room ventilation is required for batteries utilized for standby power generation. Never recharge batteries in a sealed space.

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◆Do not remove vent caps. Follow shipping and handling instructions that are applicable to the battery type. To avoid damage to terminals and seals, do not double-stack industrial batteries.

◆Do not place the battery near heating equipment .nor expose to direct sunlight for long periods

◆Due to the battery's low internal resistance and high power density. High levels of short circuit can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only.

◆Follow all installation instruction and diagrams when installing or maintaining battery systems.

Section 8 — Exposure controls and personal protection

Respiratory production

◆In case of battery venting ,provide as much ventilation as possible ,avoid confined areas with venting cell cores, respiratory protection is not necessary under conditions of normal use

Ventilation

◆Not necessary under conditions of normal use

Hand protection

◆Not necessary under conditions of normal use

Personal protective equipment:

◆Not necessary under conditions of normal use

Personal protective is recommended for venting battery

◆Respiratory protection; safety glasses, protective clothing

Section 9 — Physical and chemical properties

Nominal voltage : 1,2V Capacity : 2000mAh Property : Rechargeable

Components	Density (g/cm3)	Melting point	Solubility(H_2O)	Odor	Appearance
Nickel	8.0	About 1200°C	None	None	Sliver-Gray Metal
Nylon	1.15	260°C	None	None	White solid
Cobalt	8.0	About 1200°C	None	None	Gray black Powder
Iron	7.8	About 1200°C	None	None	Sliver-white Metal
Nickel hydroxide	4.3	N/A	None	None	green Powder
PP fiber Separator	0.92	165°C	None	None	White fabric
Hydrogen absorbing alloy	8.2	About 1200°C	None	None	Gray black Powder
potassium hydroxide	About 1.3	N/A	100%	None	Clear Colorless Liquid

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Section 10 — Stability and reactivity

Stability

◆Product is considered stable under normal pressure and temperature

Condition to avoid

◆Heating ,mechanical abuse and electrical abuse

Hazardous decomposition products

◆CO,CO_2 ,metal oxide ,irritate fume and toxic gas

Hazardous polymerization :

◆Will not occur,

◆If leaked ,forbidden to contact with strong oxidizers, mineral acids, strong alkalis, halogenated hydrocarbons

Section 11 — Toxicological information

◆Inhalation ,skin contact and eye contact are possible when the battery is opened ,exposure to internal contents, the corrosive fumes will vet very irritating to skin, eye and mucous membranes, overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation

Section 12 — Ecological information

◆When promptly used or disposed the battery does not present environmental hazard ,when disposed ,keep away from water, rain and snow

Section 13 — Disposal considerations

Disposal instructions:

◆All waste must be handled in according with local, state and federal regulations.

◆Recycle wherever possible or consult manufacturer for recycling options.

◆Consult waste management authority for disposal.

◆Material may be disposed of by controlled burning in and approved incinerator or buried In an approved landfill.

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Section 14 — Transport information

◆Not a hazard material or hazard good for transpotation

◆Separate nickel metal hydride batteries when shipping to prevent short-circuiting, they should be packed in strong for support during transport, take in a cargo of them without falling, droping, and breakage

◆Prevent collapse or cargo piles and wet by rain, the container must be handled carefully

◆Do not give shocks that result in a mark of hitting on a cell

◆Please refer to **Section 7 — Handling and storage** aslo

◆ Not regulated for transport : by air, by railway, by road

◆ Note:according to Recommendations on the Transport of Dangerous Goods,the item of 238(a),batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests ,without leakage fo battery fluid, 238(b),non-spillable batteries are not subject to these requlations if,at temperature of 55 degree,the electrolyte will not flow from a ruptured or cracked case and there is nort free liquid to flow and if,when packaged for transport,the terminals are protected from short circuit)

UN No		3496
Name and description		Batteries,nickel-metal hydride
Class or division		9
Subsi-diary rish		/
Un packing group		/
Special provision		117
Limited and excepted quantities	7(a)	0
	7(b)	E0
Packing and IBCs	Packing instruction	N/A
	Special packing provisions	/
Portable tanks and bulk containers	instructions	/
	Special provisions	/

Note:

◆Class 9: Miscellaneous dangerous substance and articles,including environmentally hazardous substances

◆"0" for each entry not permitted to be transported in accordance with this chapter

◆E0: Not permitted as excepted quantity

◆117: Subject to these regulations only when transport by sea

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Section 15 — Regulatory information

Law information

◆<<DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 September 2006 on batteries and accumulators and waste batteries and accumulators>>

◆<< Dangerous Goods Regulations>>

◆<<Recommendations on the Transport of Dangerous Goods Model Regulations>>

◆<<International Maritime Dangerous Goods >>

◆<<Technical Instructions for the Safe Transport of Dangerous Goods >>

◆<< Classification and Code of Dangerous Goods >>

◆<< Concerning the International Carriage of Dangerous Goods by road>>

◆OSHA Hazard Communication Standard Status

◆Toxic Substance Control Act (TSCA)Status

◆In according with all federal, state and local laws

Section 16 — Other information

◆The above information is based on the data of which we are aware and is believed to be correct as the data hereof ,since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data may be available subsequent to the data hereof may suggest modification of the information, we do not assume any responsibility for the results of its use, this information

is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose

End of Report

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