

# Howell Energy Co., Ltd

## (鸿伟能源有限公司)

### Material Safety Data Sheet for All nickel-metal-hydride Battery

Document Number: H1008

Revision: 01

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#### Identity:

EPT: NI-MH BATTERY

#### Section I - Information of Manufacturer

##### Manufacturer's Name

Howell Energy CO., LTD (鸿伟能源有限公司)

##### Address

16F, baiheyindou buliding, baige road, buji town, Shenzhen, China

深圳市布吉百鹤路百合银都 16F

##### Telephone Number for Information

0086-755-89335457

Date of prepared and revision

Mar . 02, 2011

#### Section II - Hazardous Ingredients / Identity Information

##### Hazardous Components:

Description:	Approximate % of total weight	
Mercury	<5ppm	
Lead	Nil	
Cadmium	Nil	
Ni (OH) <sub>2</sub> (Nickel Hydroxide)	23.6	Wt%
30% KOH Solution (Potassium Hydroxide)	9.8	Wt%

#### Section III – Physical / Chemical Characteristics

Boiling Point	N. A.	Specific Gravity (H <sub>2</sub> O=1)	N. A.
Vapor Pressure (mm Hg)	N. A.	Melting Point	N. A.
Vapor Density (AIR=1)	N. A.	Evaporation Rate (Buty1 Acetate)	N. A.
Solubility in Water	N. A.		
Appearance and Odor	Cylindrical Shape, odorless		

#### Section IV – Hazard Classification

##### Classification

N. A.

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### 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?	Skins?	Ingestion?
	N. A.	N. A.	N. A.

Health Hazard (Acute and Chronic) / Toxicological 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 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 Hazards 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

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.

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### Section IX – Accidental Release or Spillage

Steps to Be Take 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:	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.

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### Section XIV – Regulatory Information

Special requirement be according to the local regulatory

### Section XV – Other Information

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

### Section XVI – 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.

### Section XVII— Transportation;

Ordinary package could be transported by sea & by air

**UN Number:** None

**IMO Classification:** None

**ADR Classification:** None

**IATA Classification:** None

These batteries are not regulated by U.S. DOT or international agencies as hazardous materials or dangerous goods when shipped. A shipping name of Dry Ni-MH rechargeable batteries-Non-hazardous' may be used on all domestic and international bills of lading.

**shipment under special provision A123 and accordance with 52<sup>st</sup> edition of DGR 2011 shipment were complied with the stated requirement of INTERNATIONAL MARITIME DANGEROUS GOOD REGULATIONS (IMDG)**

**EC labeling:** None

**Risk Phrases:** None

**Safety Phrases:** None

Labeling is not required because batteries are classified as “articles” under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.