MATERIAL SAFETY DATA SHEET

PRODUCT NAME: FENGYONG Rechargeable Battery. **Nominal Voltage:** 1.2V/Cell.

TRADE NAMES: Nickel Metal Hydride Battery. **Approximate Weight:**

CHEMICAL SYSTEM: Nickel Metal Hydride. **Designed for Recharge:**Yes.

SECTION 1 - MANUFACTURER INFORMATION：

Manufactured for: Guangxi Wuzhou City Hezhong Energy Technology Co., Ltd.

Address: Zini Industrial Park, Yu Wu Avenue (West), Cenxi city, Guangxi.

TEL No.: +86-0774-8219808. **FAX No.:** +86-0774-8217218.

Date Prepared: MAY 2017.

SECTION 2 – HAZARDS IDENTIFICATION：

Under normal conditions of use, the battery is hermetically sealed.

Ingestion: Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

Inhalation: Contents of an open battery can cause respiratory irritation. Hypersensitivity to nickel can cause allergic pulmonary asthma.

Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns. Nickel, nickel compounds, cobalt and cobalt compounds can cause skin sensitization and an allergic contact dermatitis.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns.

Note: Nickel, nickel compounds, cobalt and cobalt compounds are listed as possible carcinogens by the International Agency for Research on Cancer (IARC) or National Toxicology Program (NTP).

SECTION 3 – INGREDIENTS:

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Aluminum (CAS# 7429-90-5)	15 mg/m^3 TWA (total dust) 5 mg/m3 TWA (respirable fraction)	10 mg/m^3 TWA	< 2.0
Cobalt as cobalt metal (CAS# 7440-48-4) as cobalt oxide (CAS# 1307-96-6)	0.1 mg/m^3 TWA (as Co)	0.02 mg/m^3 TWA (as Co)	2.5-6.0

as cobalt hydroxide (CAS# 21041-93-0)			
Lithium Hydroxide (CAS# 1310-65-2)	None established	None established	0-4.0
Manganese (CAS# 7439-96-5)	5 mg/m^3 Ceiling	0.2 mg/m^3 TWA (as Mn)	< 3.0
Mischmetal including: Lanthanum (CAS# 7439-91-0) Cerium (CAS# 7440-45-1) Neodymium (CAS# 7440-00-8) Praseodymium (CAS# 7440-10-0)	15 mg/m^3 TWA (particulates not otherwise regulated-total dust) 5 mg/m^3 TWA (particulates not otherwise regulated-respirable fraction)	10 mg/m^3 TWA (particulates not Otherwise classified-inhalable) 3 mg/m^3 TWA (particulates not otherwise classified-respirable)	< 13.0
Nickel as nickel hydroxide (CAS# 12054-48-7) as nickel oxide (CAS# 1313-99-1) as nickel powder (CAS# 7440-02-0)	1 mg/m^3 TWA (as Ni)	1.5 mg/m^3 TWA (as inhalable Ni) 0.2 mg/m^3 TWA (as inhalable Ni, insoluble compounds)	30-50
Potassium Hydroxide (CAS# 1310-58-3)	None established	2 mg/m^3 Ceiling	< 7.0
Sodium Hydroxide (CAS# 1310-73-2)	2 mg/m^3 TWA	2 mg/m^3 Ceiling	0-4.0
Zinc as zinc metal (CAS# 7440-66-6) as zinc oxide (CAS# 1314-13-2) as zinc hydroxide (CAS# 20427-58-1)	15 mg/m^3 TWA (total dust: zinc oxide) 5 mg/m^3 TWA (respirable fraction: zinc oxide)	10 mg/m^3 TWA (total dust: zinc oxide)	< 3.0
Non-Hazardous Components Steel (iron CAS# 7439-89-6) Water, Paper, Plastic and Other	None established None established	None established None established	14-18 Balance

SECTION 4 – FIRST AID MEASURES :

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation: Provide fresh air and seek medical attention.

Skin Contact: Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

SECTION 5 - FIRE FIGHTING MEASURES：

If fire or explosion occurs when batteries are on charge, shut off power to charger.

In case of fire where nickel metal hydride batteries are present, apply a smothering agent such as sand, dry ground dolomite, or soda ash, or flood the area with water. A smothering agent will extinguish burning nickel metal hydride batteries. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving nickel metal hydride batteries can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended.

Fire fighters should wear self-contained breathing apparatus. Burning nickel metal hydride batteries can produce toxic fumes including oxides of nickel, cobalt, aluminum, manganese, lanthanum, cerium, neodymium, and praseodymium.

SECTION 6 - ACCIDENTAL RELEASE MEASURES：

To cleanup leaking batteries:

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries.

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

SECTION 7 - HANDLING AND STORAGE：

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult HEZHONG ENERGY TECHNOLOGY CO.,LTD. for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air, can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition. Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry,

metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, consult HEZHONG ENERGY TECHNOLOGY CO.,LTD. for proper precautions to prevent seal damage or short circuit.

Do not open battery. The negative electrode material may be pyrophoric. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

Charging: This battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before use. Use recommended charger. Improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.

Labeling: If the label or package warnings are not visible, it is important to provide a package and/or device label stating:

WARNING: CHARGE ONLY WITH SPECIFIED CHARGERS ACCORDING TO DEVICE MANUFACTURER'S INSTRUCTIONS. DO NOT OPEN BATTERY, DISPOSE OF IN FIRE OR SHORT CIRCUIT - MAY IGNITE, EXPLODE, LEAK OR GET HOT CAUSING PERSONAL INJURY.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION：

Ventilation Requirements: Not necessary under normal conditions.

Respiratory Protection: Not necessary under normal conditions.

Eye Protection: Not necessary under normal conditions.

Gloves: Not necessary under normal conditions.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES：

Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Vapor Density (Air = 1)	Not applicable for an Article
Density (g/cm3)	2.5 – 3.7
Percent Volatile by Volume (%)	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article

Physical State	Solid
Solubility in Water (% by weight)	Not applicable for an Article
pH	Not applicable for an Article
Appearance and Odor	Solid object / no odor

SECTION 10 – STABILITY AND REACTIVITY：

Nickel metal hydride batteries do not meet any of the criteria established in 40 CFR 261.2 for reactivity.

SECTION 11 – TOXICOLOGICAL INFORMATION：

Nickel metal hydride batteries are not hazardous waste. Under normal conditions of use, nickel metal hydride batteries are non-toxic.

SECTION 12 – ECOLOGICAL INFORMATION：

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

SECTION 13 – DISPOSAL CONSIDERATIONS：

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling. Nickel metal hydride batteries can also be collected as part of the Rechargeable Battery Recycling Corporation (RBRC) program.

SECTION 14 – TRANSPORT INFORMATION：

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

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).

Nickel metal hydride batteries are defined as dangerous goods under the IMDG code.

For air and ground transportation, 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
IMDG	UN3496 SP 963
UN	UN 3028 Provisions 295 - 304
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	UN 3028 Provisions 295 - 304

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.

SECTION 15 - REGULATORY INFORMATION：

Batteries marketed by HEZHONG ENERGY TECHNOLOGY CO., LTD. are not classified as dangerous goods by the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

SECTION 16 - OTHER INFORMATION：

None.