

**MATERIAL SAFETY DATA SHEET****ACCORDING TO 91/155/EEC AND ISO 11014-1****DATE:** Dec 29, 2007**NUMBER:** RJSSH0712199MSDSEU**IDENTITY (As Used on Label and List)****Product Name:** Nickel Metal Hydride rechargeable battery**Common Name:** Ni-MH rechargeable battery**SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Manufacturer's Name:**

Shenzhen Vigor Power Battery Co., Ltd.

Address (Number, Street, City, State, and ZIP Code):No.1 Building 3rd Floor, Northern Yongfa Technical and Scientific Park, Chuandong Industrial Zone, Yanchuan Chaoyang Rd., Songgang, Bao'an District, Shenzhen, China**Emergency Telephone Number:** +86-755-33658277**Fax Number for Information:** +86-755-33658377**Mobile Phone:** +86-13714207636**Contact Person:** Mr. Xuan**SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS**

Substance	CAS No.	OSHA PEL (mg/m³)	ACGIH TLV (mg/m³)
Nickel (Ni+Co+Zn)	Nickel: 7440-02-0 Cobalt: 7440-48-4 Zinc: 7440-66-6	1 TWA 0.1 TWA 5 TWA	1 TWA Dust & Fume 0.005 N/A
Foam Nickel	7440-02-0	1 TWA	1 TWA
Alloy Powder	N/A	N/A	N/A
Copper Net	7440-50-8	0.1 (fume) 1 (dust)	0.2 (fume) 1 (dust)

PEL=Permissible Exposure Limit, TLV=Threshold Limit Value.

TWA=Time-Weighted Average, N/A=Not Applicable/ Not Available.

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SECTION III - HAZARDS IDENTIFICATION

Routes of Entry:

Inhalation: Yes

Skin: Yes

Ingestion: Yes

Health Hazards Acute and Chronic:**Acute:**

Inhalation: During normal use inhalation is an unlikely route of exposure due to containment of hazardous materials within the battery case. However, should the batteries be exposed to extreme heat or pressures causing a breach in the battery cell case, exposure to the constituents may occur. Inhalation of cobalt dusts may result in pulmonary conditions.

Ingestion: If the battery case is breached in the digestive tract, the electrolyte may cause localized burns.

Skin: Exposure to the electrolyte contained inside the battery may result in chemical burns. Exposure to nickel may cause dermatitis in some sensitive individuals.

Eye: Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

Chronic:

Chronic overexposure to nickel may result in cancer; dermal contact may result in dermatitis in sensitive individuals. Nickel has been identified by the National Toxicology Program (NTP) as reasonably anticipated to be a carcinogen. Cobalt has been identified by IARC as a 2B carcinogen.

SECTION IV - FIRST AID MEASURES

Eye:

Wash thoroughly with running water. Get medical advice if irritation develops.

Skin:

If the internal cell materials of an opened battery cell come into contact with the skin, immediately flush with water for at least 15 minutes. Take off the contaminated clothes immediately. Get medical advice if irritation develops.

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Do not induce vomiting, seek immediate medical attention.

SECTION V - FIRE FIGHTING MEASURES

Extinguishing Media:

Use water, foam or dry powder, as appropriate to extinguish fire.

Fire Fighting Procedures:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode. Fight fire from the maximum distance. Evacuate area.

**Specific Hazards:**

When involved in a fire, this material may decompose and produce irritating fumes containing nickel, cobalt and rare earth metals (cerium, lanthanum neodymium etc.).

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Wear appropriate personal protective equipment as specified in Section VIII.

Environmental Precautions:

This material may be non-hazardous in ordinary use and may be discarded in accordance with applicable governmental regulations and take order with the demands of the environmental protection section.

Methods of Clean up:

Spill and leaks are unlikely because cells are contained in a hermetically-sealed case. In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container. Dispose in accordance with applicable state and federal regulations.

SECTION VII - HANDLING AND STORAGE

Handling Precautions:

Accidental short circuit will bring high temperature elevation to the battery as well as shorten the battery life. Be sure to avoid prolonged short circuit since the heat can burn attendant skin and even rupture of the battery cell case. Batteries packaged in bulk containers should not be shaken. Metal covered tables or belts used for assembly of batteries into devices can be the source of short circuits; apply insulating material to assembly work surface.

Charging Precautions:

This battery is designed for recharging. A loss of voltage and capacity of batteries due to self-discharge during prolonged storage is unavoidable. Charge battery before use. Observe the specified charge rate since higher rates can cause a rise in internal gas pressure which may result in damaging heat generation or cell rupture and/or venting.

Storage Precautions:

Store in a cool, dry, and well-ventilated area and away from sources of ignition, excessive heat and direct sunlight. Keep container closed when not in use. Protect from physical damage. Separate from incompatible materials. Put it lightly when packing and transport, prevent the packing and container from damage.

Warning: Storing unpackaged cells together could result in cell shorting and heat build-up.

Incompatible Products:

The battery cells are encased in a non-reactive container; however, if the container is breached or rupture, avoid contact of internal battery components with acids, aldehydes, and carbamate compounds.



SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

See Section II.

Engineering Measure:

Use exhaust ventilation to keep airborne concentration below exposure limit.

Personal Protection Equipment:

Respiration Protection: If TLV of product or any component is exceeded, a NIOSH approved air supply respirator is advised in absence of proper environmental control.

Eye Protection: Wear safety glasses or face shield as appropriate.

Hand Protection: Not required under normal use.

Skin and Body Protection: Not required under normal use.

Recommended Decontamination Facilities: Eye bath, safety shower, washing facilities.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Odor: Odorless

Appearance: Solid

Boiling Point: N/A

Melting Point: N/A

Solubility in Water: Insoluble

Density: N/A

Flash Point: N/A

Explosion Limits: N/A

Ignition Temperature: N/A

N/A = Not applicable or not available

SECTION X - STABILITY AND REACTIVITY

Stability:

The product is considered stable under normal conditions.

Materials to Avoid:

The battery cells are encased in a non-reactive container; however, if the container is breached or rupture, avoid contact of internal battery components with acids, aldehydes, and carbamate compounds.

Stability Condition to Avoid:

Avoid heat, open flames, sparks, and moisture.

Hazardous Decomposition Products:

Thermal decomposition products may include oxides of nickel, cobalt, and rare earths.

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SECTION XI - TOXICOLOGICAL INFORMATION

Acute Animal Toxicity Data:

Oral: N/E

Dermal: N/E

Skin irritation: N/E

Mutagenicity: N/E

SECTION XII - ECOLOGICAL INFORMATION

Environmental Toxicity:

On the basis of available information, this material is not expected to produce any significant adverse environmental effects when recommended use instructions are followed.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Methods:

Used or unused product should be disposed of in accordance with Federal, State or Local Laws and Regulations.

Empty Container Warnings:

Empty containers may contain product residue, follow SDS and label warnings even after they have been emptied.

SECTION XIV - TRANSPORT INFORMATION

Nickel Metal Hydride batteries are considered to be "dry cell" batteries and are not subject to dangerous goods regulation for the purpose of transportation by the U.S. Department of Transportation (DOT), the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA) or the International Maritime Dangerous Goods regulations (IMDG). The only DOT requirement for shipping Nickel Metal Hydride 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)." IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.



SECTION XV - REGULATORY INFORMATION

EC label: N/A

Contains: N/A

Other Regulation: N/A

For details regulations you should contact the appropriate agency in your country.

Note:

Do not dispose in fire, mix with other battery types, charge above specified rate, connect improperly, or short circuit, which may result in overheating, explosion or leakage of cell contents.

Observe all warnings and precautions listed for the product before use.

The children should be instructed before they make use of the product.

SECTION XVI - OTHER INFORMATION

This data is offered in good faith as typical values and not as a product specification. The information in this data sheet was compiled from information supplied by the vendors of the components of this compound. No warranty, either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

NOTE

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