



# Material Safety Data Sheet

MSDS Code: EBO1507034-M306

Date of Issue: July 13, 2015

NI-MH RECHARGEABLE BATTERY

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## 1. Identification Of Substance

### Product Details

Product Name:

NI-MH RECHARGEABLE BATTERY

Product Model:

AA100mAh	AA150mAh	AA200mAh	AA250mAh
AA300mAh	AA350mAh	AA400mAh	AA450mAh
AA500mAh	AA600mAh	AA700mAh	AA800mAh
AA900mAh	AA1000mAh	AA1100mAh	AA1200mAh
AA1300mAh	AA1400mAh	AA1500mAh	AA1600mAh
AA1700mAh	AA1800mAh	AA1900mAh	AA2000mAh
AA2100mAh	AA2200mAh	AA2300mAh	AA2400mAh
AA2500mAh	AA2600mAh	AAA100mAh	AAA150mAh
AAA200mAh	AAA250mAh	AAA300mAh	AAA350mAh
AAA400mAh	AAA450mAh	AAA500mAh	AAA600mAh
AAA700mAh	AAA800mAh	AAA900mAh	AAA1000mAh
2/3AA100mAh	2/3AA150mAh	2/3AA200mAh	2/3AA250mAh
2/3AA300mAh	2/3AA350mAh	2/3AA400mAh	2/3AA450mAh
2/3AA500mAh	2/3AA550mAh	2/3AA600mAh	2/3AAA100mAh
2/3AAA150mAh	2/3AAA200mAh	2/3AAA250mAh	2/3AAA300mAh
2/3AAA350mAh	2/3AAA400mAh	2/3AAA450mAh	2/3AAA500mAh
2/3AAA550mAh	2/3AAA600mAh	4/5AA100mAh	4/5AA200mAh
4/5AA300mAh	4/5AA350mAh	4/5AA400mAh	4/5AA500mAh
4/5AA600mAh	4/5AA700mAh	4/5AA800mAh	4/5AA900mAh
4/5AA1000mAh	4/5AA1100mAh	4/5AA1200mAh	4/5AA1300mAh
4/5AA1400mAh	4/5AA1500mAh	4/5AA1600mAh	4/5AA1700mAh
4/5AA1800mAh	4/5AA1900mAh	4/5SC600mAh	4/5SC700mAh
4/5SC800mAh	4/5SC900mAh	4/5SC1000mAh	4/5SC1100mAh
4/5SC1200mAh	4/5SC1300mAh	4/5SC1400mAh	4/5SC1500mAh
4/5SC1600mAh	4/5SC1700mAh	4/5SC1800mAh	4/5SC1900mAh
4/5SC2000mAh	SC600mAh	SC700mAh	SC800mAh
SC900mAh	SC1000mAh	SC1100mAh	SC1200mAh
SC1300mAh	SC1400mAh	SC1500mAh	SC1600mAh
SC1700mAh	SC1800mAh	SC1900mAh	SC2000mAh
SC2200mAh	SC2400mAh	SC2600mAh	SC2800mAh
SC3000mAh	C1500mAh	C1800mAh	C2000mAh
C2500mAh	C3000mAh	C3500mAh	C4000mAh
D3000mAh	D3500mAh	D4000mAh	D4500mAh
D5000mAh	D6000mAh	D7000mAh	D8000mAh



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**Product Use:** Our batteries are mainly applied to cordless phones, walkmans, solar lights, electrical drills, shavers, emergency lights, and back-up power, etc.

**Manufacturer/Supplier By:** HUIXIAN SUNRISE POWER SOURCE CO., LTD  
West Suokelou, Huqiao, Huixian City, Henan, China  
Tel& Emergency Tel: +86-373-6115988  
Fax: +86-373-6115600

## 2. Composition/Data On Components

COMPONENT	CAS #	% by wt.
Nickel	7440-02-0	20%
Alloy Powder	/	30%
Cobalt	7440-48-4	1.1%
Water	7732-18-5	18.3%
K	7440-09-7	8.0%
Na	7440-23-5	1.8%
Iron	7439-89-6	16.7%
Copper	7440-50-8	4.0%
Litium	7439-93-2	0.1%

## 3. Hazards Identification

**Hazard description:** These batteries are no "substances" or "mixtures" according to Regulation (EC) No 1907/2006 EC. Instead they have to be regarded as "articles", no substances are intended to be released during handling. Therefore there is no obligation to supply a "safety data sheet according to Regulation (EC) 1907/2006, Article 31".

A sealed Nickel-Metal hydride cell/battery is not hazardous in normal use; especially the release of hydrogen gas is excluded. In case of mistreatment (abusive over charge, reverse charge, external short circuit...) and in case of fault some electrolyte can leak from the cell through the safety device. In these cases refer to the risk of potassium hydroxide solution (corrosive, pH > 14). The electrode materials are only hazardous, if the materials are released by mechanical



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## 4. First aid Measures

After inhalation:	Fresh air. Seek for medical assistance.
After skin contact:	Flush affected areas with plenty of water. Remove contaminated cloth immediately. Seek for medical assistance.
After eye contact:	Flush the eye gently with plenty of water (at least 15 minutes). Seek for medical assistance.
After ingestion:	Drink plenty of water. Avoid vomiting. Seek for medical assistance. No trials for neutralization.

## 5. Fire Fighting Measures

Suitable extinguishing agents:	CO <sub>2</sub> , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.
Special hazards caused by the material, its products of combustion or resulting gases:	Emits toxic fumes under fire conditions.
Protective equipment:	Wear self-contained respiratory protective device.

## 6. Accidental Release Measures

Person related measures:	Wear personal protective equipment adapted to the situation (protection gloves, cloth).
Environment protection measures:	In the event of battery rupture, prevent skin contact and collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.
Treatment for cleaning:	If battery casing is dismantled, small amounts of electrolyte may leak. Pack the battery including ingredients as described above. Then clean with water.

## 7. Handling And Storage

Guideline for safe handling:	Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current. Do not
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**Storage:** open or disassemble batteries.  
Storage preferably at room temperature 20°C. Avoid large temperature changes. Do not store close to the heating. Avoid direct sunlight.

**storage of large amounts:** If possible, store the batteries in original packaging (short circuit protection). A fire alarm is recommended. For automatic fire extinction consider chapter 5 "Fire-fighting measures".

## 8. Exposure Controls And Personal Protection

Under normal conditions (during charge and discharge) release of ingredients does not occur.

**Breathing equipment:** In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer. Exposure use respiratory protective device that is independent of circulating air.

**Protection of hands:** Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the Degradation

**Material of gloves:** The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material:** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Tightly sealed goggles

## 9. Physical And Chemical Properties

### General Information

**Form:** Solid  
**Color:** Mixed  
**Odor:** Odorless  
**Boiling Point:** Not Applicable  
**Melting Point:** Not Applicable  
**Vapor Pressure:** Not Applicable



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Vapor Density:	Not Applicable
Solubility In Water:	Insoluble
Specific Gravity (H <sub>2</sub> O = 1):	Not Applicable
pH:	Not Applicable
Freezing Point:	Not Applicable
Molecular Weight:	Mixture, Not Applicable

## 10. Stability And Reactivity

Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
Dangerous reactions:	No dangerous reactions known.
Dangerous products of decomposition:	No dangerous decomposition products known.

## 11. Toxicological Information

Acute Effects:	Under normal conditions of use, the risk of exposure to hazardous components is minimal. If the cells become damaged due to mechanical failure or fire, contact with hazardous materials is possible.
Chronic Effects:	Under normal conditions of use, the risk of long-term exposure to hazardous components is minimal. Prolonged inhalation of metal dusts or electrolyte mists may cause serious respiratory illness. The chronic effects of long-term exposure to nickel bearing alloys (nickel metal hydride) are currently unknown. According to the national toxicology program (NTP) insoluble nickel compounds (nickel hydroxide) may reasonably be anticipated to be carcinogens, and an assessment by International Agency for Research on Cancer (IARC) concluded there was sufficient evidence that nickel and nickel compounds, as a group, but not necessarily as individual chemicals, were carcinogenic to humans. Cobalt compounds have been classified as carcinogens or potential carcinogens by OSHA and IARC.

## 12. Ecological Information

General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or Sewage system.
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## 13. Disposal Considerations

**Product-Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**Uncleaned**

**packagings-Recommendation:** Disposal must be made according to official regulations.

## 14. Transport Information

Ni-Mh Rechargeable Battery are considered to be "dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civic Aviation Administration (ICAO), International Air Transport Association (IATA), the International Maritime Organization (IMO), the "Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route" (ADR) and the "Règlement concernant le transport international ferroviaire de marchandises Dangereuses" (RID). IATA DGR: Special Provision A123:

"Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries.

Any electrical battery ... having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals...) is forbidden from transport; and (b) accidental activation. The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued."

In addition in the 56th edition Special Provision A199 is a new special provision assigned against the entry for Batteries, nickel-metal hydride. The special provision identifies that UN 3496 only applies in sea transport and that provided that nickel-metal hydride batteries are prepared in accordance with the special provision they are "not restricted" in air transport. IMO, IMDG Code: Special Provision 963: "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." EU (ADR/RID):

Chapter 3.2 Table A: "Batteries, nickel-metal hydride, UN 3496, not subject to ADR" USA: 49 CFR § 172.102 Special Provisions 130 and 340: Nickel metal hydride button cells/batteries are not subject to requirements of this subchapter except for the following ... "Batteries and battery-powered device(s) containing batteries must be prepared and packaged for transport in a manner to prevent: (1) A dangerous evolution of heat; (2) Short circuits, including but not limited to the following methods: (i) Packaging each battery or each battery-powered device when practicable, in fully enclosed inner packagings made of non-conductive material; (ii) Separating or packaging batteries in a manner to prevent contact with other batteries, devices or conductive materials ( e.g., metal) in the packagings".

**Transport fashion:** By air, by sea, by rail, by high-way.

## 15. Regulations

Law Information

«Dangerous Goods Regulation»



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«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»  
«Occupational Safety and Health Act» (OSHA)  
«Toxic Substances Control Act» (TSCA)  
«Consumer Product Safety Act» (CPSA)  
«Federal Environmental Pollution Control Act» (FEPCA)  
«The Oil Pollution Act» (OPA)  
«Superfund Amendments and Reauthorization Act Title III  
(302/311/312/313)» (SARA)  
«Resource Conservation and Recovery Act» (RCRA)  
«Safety Drinking Water Act» (CWA)  
«California Proposition 65»  
«Code of Federal Regulations» (CFR)

In accordance with all Federal, State and Local laws.

## 16. Other Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications 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.

