




Rep No. CHE11-MAE090262M

# MSDS Report

**Name of sample:** NI-CD RECHARGEABLE BATTERY

**Client unit:** SUNRISE POWER SOURCE (HUIXIAN) CO., LTD.

**Address:** WEST SUOKELOU, HUQIAO, HUIXIAN CITY,  
HENAN, CHINA

Inspected by:   
Kevin Yu

Date:  September 30, 2011

Report in electronic version is only for client's preview and reference.  
For confirmative content, formal test report shall prevail.

# Material Safety Data Sheet

Printing date September 30, 2011

Reviewed on September 30, 2011

## 1 Identification of substance:

### Product details

**Product name:** NI-CD RECHARGEABLE BATTERY

### Product information:

Product Model No: AA100mAh, AA150mAh, AA200mAh, AA250mAh, AA300mAh, AA350mAh, AA400mAh, AA450mAh, AA500mAh, AA600mAh, AA700mAh, AA800mAh, AA900mAh, AA1000mAh, AAA100mAh, AAA150mAh, AAA200mAh, AAA250mAh, AAA300mAh, AAA350mAh, AAA400mAh, AAA450mAh, AAA500mAh, AAA600mAh, 2/3AA100mAh, 2/3AA150mAh, 2/3AA200mAh, 2/3AA250mAh, 2/3AA300mAh, 2/3AA350mAh, 2/3AA400mAh, 2/3AA500mAh, 2/3AA600mAh, 2/3AAA100mAh, 2/3AAA150mAh, 2/3AAA200mAh, 2/3AAA250mAh, 2/3AAA300mAh, 2/3AAA350mAh, SC600mAh, SC700mAh, SC800mAh, SC900mAh, SC1000mAh, SC1100mAh, SC1200mAh, SC1300mAh, SC1400mAh, SC1500mAh, SC1600mAh, SC1800mAh, SC2000mAh, C2000mAh, C2500mAh, C3000mAh, D4000mAh, D5000mAh

Product End Uses: OUR BATTERIES ARE MAINLY APPLIED TO CORDLESS PHONES, WALKMANS, SOLAR LIGHTS, ELECTRICAL DRILLS, SHAVERS, EMERGENCY LIGHTS, AND BACK-UP POWER, ETC.

### Manufacturer/Supplier:

SUNRISE POWER SOURCE (HUIXIAN) CO., LTD.

WEST SUOKELOU, HUQIAO, HUIXIAN CITY, HENAN, CHINA

Tel: +86-373-6115988

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Emergency Tel: +86-373-6115988

**MSDS Code: CHE11-MAE090262M**

## 2 Composition/Data on components:

### Chemical characterization:

#### Description : (CAS#)

7440-02-0	Nickel	16.7%
7440-43-9	Cadmium	26.4%
7440-48-4	Cobalt	1.1%
7440-44-0	Carbon	3.3%
14918-69-5	Na	9.8%
7439-89-6	Iron	16.7%
7732-18-5	Water	18.3%
/	Other	7.7%

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## 3 Hazards identification

### **Hazard description:**

*Routes of Entry: Not applicable under normal conditions.*

*Health Hazards: In case of leakage, will be cause itchy and/or chemical burns when direct contact With electrolyte.*

*Hazards to Environment: Not applicable.*

*Fire and Explosion Hazards: Not applicably.*

## 4 First aid measures

### **Eye**

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

### **Skin**

*Get medical aid at once. Immediately remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Discard contaminated clothing in a manner which limits further exposure.*

### **Inhalation**

*Get medical aid immediately. Remove from exposure and move to fresh air immediately. Use oxygen if available. Use oxygen device such as mask or bag.*

### **Ingestion**

*Do not induce vomiting. Get medical aid immediately.*

### **Note to Physician**

*May be toxic to the body. Wash out the solution with water promptly in an emergency. Treat symptomatically and supportively.*

## 5 Fire fighting measures

**Flash Point:** N/A.

**Auto-Ignition Temperature:** N/A.

### **Extinguishing Media**

*Dry chemical, CO<sub>2</sub>.*

### **Special Fire-Fighting Procedures**

*Self-contained breathing apparatus.*

### **Unusual Fire and Explosion Hazards**

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

### **Hazardous Combustion Products**

*Carbon monoxide, carbon dioxide, and other metal oxide fumes.*

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## 6 Accidental release measures

### **Steps to be Taken in case Material is Released or Spilled**

If the battery is accidentally broken and electrolyte leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel 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 and incinerate.

### **Waste Disposal Method**

It is recommended to discharge the battery to the end, handing in the abandoned battery to related department unify, dispose of the batteries in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

## 7 Handling and storage

Do not charge. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container.

Store in a dry, cool and well-ventilated area.

Do not short circuit terminals, or charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids.

### **Precautions to be taken in handling and storing**

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods.

### **Other Precautions**

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

## 8 Exposure controls and personal protection

### **Respiratory Protection**

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under conditions of normal use.

### **Ventilation**

Not necessary under conditions of normal use.

### **Protective Gloves**

Not necessary under conditions of normal use.

### **Other Protective Clothing or Equipment**

Not necessary under conditions of normal use.

### **Personal Protection is recommended for venting batteries**

Respiratory protection, protective gloves, protective clothing and safety glass with side shields.

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## 9 Physical and chemical properties:

### General Information

**Form:** Solid**Color:** Mixed**Odor:** Odorless

### Change in condition

**Melting point/Melting range:** Not determined**Boiling point/Boiling range:** Not determined**Sublimation temperature / start:** Not determined**Flash point:** Not applicable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product does not present an explosion hazard

### Explosion limits:

**Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Viscosity:** Not determined**Density:** Not determined**Solubility in / Miscibility with Water:** Insoluble

## 10 Stability and reactivity

### Stability

Stable

### Conditions to Avoid

Elevated temperatures fire and ignition sources, mechanical abuse and electrical abuse.

### Hazardous Decomposition Products

When exposed to fire or extreme heat, batteries may emit toxic fumes.

## 11 Toxicological information

Inhalation, skin contact and eye contact are possible when the battery is opened.

Exposure to internal contents, the corrosive fumes will be irritation to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

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## 12 Ecological information:

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

## 13 Disposal considerations

### Appropriate Method of Disposal of Substance or Preparation

Dispose of the battery in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

## 14 Transport information

Ni-Cd rechargeable battery is unregulated for purpose of transportation by EU. Department of Transportation (DOT), International Civil Aviation Administration (ICAA), International Air Transport Association (IATA) and the International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these 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).” The only requirements for shipping these batteries by ICAO and IATA is Special Provision A123 which states: “An electrical battery or battery powered device having the potential of dangerous evolutions of heat that is not prepared so as to prevent a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed Terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals) is forbidden from transportation. “The International Maritime Dangerous Goods Code (IMDG) regulate them for ocean transportation under Special Provision 304 which says: “Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkaline-manganese, zinc-carbon, and nickel metal hydride and nickel-cadmium batteries”.

The requirements for shipping these batteries, in all modes of transportation, are that they be separated from each other to prevent short-circuits and to prevent movement that could lead to short-circuits. Products must also be packed in strong packaging that can withstand the rigors normal to transportation.

## 15 Regulations

### Law Information

《Dangerous Goods Regulation》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

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《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.