



Material Safety Data Sheet

Model No.: Nickel-Metal Hydride Battery

Document Number: KLY-M-0101

Revision:2.0

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IDENTITY

(As Used on Label and List)

Note: Blank spaces are not permitted if any item is not

applicable or no information is available, the space must be marked to indicate that.

Section I – Information of Manufacturer

| | |
|---|---|
| Manufacturer's Name YiYang Corun Battery Co.,Ltd. | Emergency telephone Number |
| Address(Number, Street, City State, and ZIP Code) ChaoYang Development Zone, YiYang city, Hunan province, china | Telephone Number for information +86) 0737-6202918 |
| | Date of prepared and revision 22 July 2013 |
| | Signature of Preparer(optional) |

Section II -Hazardous Ingredients/Identity Information

Hazardous Components:

A) The content of elements are based on homogeneous materials level of NiMH battery:

| Element | Lead | Cadmium | Hexavalent Chromium (Cr6+) | Mercury | Polybrominated Biphenyls (PBBs) | Polybrominated Diphenyls Ethers (PBDEs) |
|---------------|-----------|-----------|----------------------------|-----------|---------------------------------|---|
| Limit (mg/kg) | <1000 | <100 | <1000 | <1000 | <1000 | <1000 |
| CAS no. | 7439-92-1 | 7440-43-9 | 18540-29-9 | 7439-97-6 | 59536-65-1 | --- |

B) The content of elements are based on total weight of NiMH battery:

| Element | Lead | Cadmium | Hexavalent Chromium (Cr6+) | Mercury | Polybrominated Biphenyls(PBBs) | Polybrominated Diphenyl Ethers (PBDEs) | |
|---------------|--|--------------------------|----------------------------|-------------|--------------------------------|--|-------------------------|
| Limit (mg/kg) | <40 | <20 | <5 | <5 | Nil | Nil | |
| Element | Ni(OH) ₂ (Nickel Hydroxide) | KOH Solution (Potassium) | NaOH Solution (Sodium) | Co (cobalt) | Fe (Iron) | Cu (copper) | Non-Hazardous Materials |
| Limit (wt%) | <35% | <5% | <5% | <8% | <12% | <5% | <30% |
| CAS no. | 12054-48-7 | 1310-58-3 | 1310-73-2 | 7440-48-4 | 7439-89-6 | 7440-50-8 | --- |

High Technology Industry Park, ChaoYang Development Zone, YiYang city, Hunan province, china

Telephone : (086) 737 6202918

Website: <http://www.corun.com>

Fax : (086) 737 6202919

Manufacturer reserves the right to alter or amend the design, model and specification without prior notice.



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Section III – Physical/Chemical Characteristics

| | | | |
|------------------------|-----------------------------|------------------------------------|------|
| Boiling Point | N.A. | Specific Gravity (H2O=1) | N.A. |
| Vapor Pressure (mm Hg) | N.A. | Melting Point | N.A. |
| Vapor Density (AIR=1) | N.A. | Evaporation Rate (Butyl Acetate=1) | N.A. |
| Solubility in Water | N.A. | | |
| Appearance and Odor: | Cylindrical Shape. odorless | | |

Section IV – Hazard Classification

| | |
|----------------|------|
| Classification | N.A. |
|----------------|------|

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? | Skin? | Ingestion? |
| | N.A. | N.A. | N.A. |

Health Hazard (Acute and Chronic) / Toxicological information

In ease 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 fifteen (15) minutes, and contact a physician.

If electrolytes vapors are inhaled, provide fresh air and seek the attention if respiratory irritation develops.

Ventilate the contaminated area.



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Section VIII – Fire and Explosion Hazard Data

| | | | | | | | | | |
|---------------------------|------|---------------|------|------------------|------|-----|------|-----|------|
| Flash Point (Method Used) | N.A. | Ignition Temp | N.A. | Flammable Limits | N.A. | LEL | N.A. | UEL | 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.

Section IX – Accidental Release or Spillage

Steps to be Taken 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 call vapors or touch internal material with bare hands.

Keep batteries between -10°C and 40°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 | N.A. | Eye Protection | N.A. |
|-------------------|------|----------------|------|

Other Protective Clothing or Equipment N.A.

Work/Hygienic Practices N.A.



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Section XII - Ecological Information

N.A.

Section XIII - Disposal Method

Dispose of batteries according to government regulations

Section XIV - Transportation Information

Corun batteries are considered to be “Dry cell” batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG).

The battery in the transportation, loading and unloading, and storage process, easy for person, property and environmental damage, need special protection, should according to (IMDG) UN3292(batteries, nickel metal hydride, type 9) corresponding dangerous goods transport, piling entries on packaging carrying, isolation and checked.

SP117

Only regulated when transported by sea.

SP 963

Nickel-metal hydride button cells or nickel-metal hydride cells or batteries packed with or contained in equipment are not subject to other provisions of this code.

All other nickel-metal hydride cells or batteries shall be securely packed and protected from short circuit.They are not subject to other provisions of this code provided that are loaded in a cargo transport unit in a total quantity of less than 100 Kg gross mass. When loaded in a cargo transport unit in a total quantity of 100 Kg gross mass or more, they are not subject to other provisions of this Code except those of 5.4.1,5.4.3 and column (16) of the dangerous good list in Chapter 3.2.

International Civil Aviation Organization(ICAO)and International Air Transport Association(IATA),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.”

Section XV - Regulatory Information

Special requirement be according to the local regulations.

Section XVI - Other Information

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

Section XVII – 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.