

NEXcell BATTERY CO., LTD

MATERIAL SAFETY DATA SHEET

Product name: NEXcell Ni-MH BATTERY

Voltage: 1.2V

TRADE NAME: Nickel Metal Hydride Battery

CHEMICAL SYSTEM: Nickel Metal Hydride

Recharge: Yes

Date of preparation: January 2017

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product name: NEXcell Ni-MH BATTERY

Address: 3F NO. 24 PROSPERITY RD. II , SCIENCE PARK HSINCHU, TAIWAN

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MSDS Date: 3 January 2017

SECTION 2 INFORMATION ON INGREDIENTS

Products name: NEXcell Ni-MH battery

Ingredient	Concentration	CAS No.	EC No.	EU Directive 67/548/EEC Annex I Index No.	Hazard Label
Nickel; Hydroxide	25~35%	12054-48-7	235-008-5	028-008-00-X	Xn, N
Hydrogen-storage	30~40%	/	/	/	/
Alloys Nickel Foam	4~7%	7440-02-0	231-111-4	028-002-00-7	Xn
Nickel Plated Steel Strips	4~6%	/	/	/	/
Steel Shell	0.3~0.5%	/	/	/	/
Potassium Hydroxide	2~2.5%	1310-58-3	215-181-3	019-002-00-8	C
Sodium Hydroxide	0.1~0.2%	1310-73-2	215-185-5	011-002-00-6	C

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SECTION 3 HAZARDS IDENTIFICATION

Hazards Identification: This substance is considered to be non-hazardous for transport.

Emergency Overview:

Caution: Avoid contact and inhalation.

Skin Contact : Exposure to electrolyte contained inside the battery may result in chemical burn.

Exposure to nickel may cause dermatitis in some sensitive individuals.

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

SECTION 4 FIRST-AID MEASURES

Skin Exposure: If the internal battery materials of an opened battery cell come into contact with the skin, immediately flush with plenty of water.

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Inhalation Exposure : If potential for exposure to nickel fumes or dusts occurs, remove immediately to fresh air and seek medical attention.

Oral Exposure: If swallowed, do not induce vomiting. Seek immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media: Suitable: Water spray, Dry chemical, Sandy soil, Carbon dioxide or appropriate foam.

Firefighting:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific hazards: Emit toxic fumes under fire conditions.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Procedures of Personal Precautions:

Exercise appropriate precautions to minimize direct contact the internal material with skin and eyes.

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Methods for cleaning up:

Sweep up with spade, place into a dry, clean, lidded container for disposal. Avoid raising dust. ventilate area and wash spill site after material pickup is complete.

SECTION 7 HANDLING AND STORAGE

Handling

Wear appropriate protective clothing and safety gloves. Avoid contact the internal material with eyes, skin. Avoid inhalation-the internal material. Mechanical exhaust required. Keep away from ignition sources, heat and flame, Incompatibilities: strong oxidizing agents, corrosives and foods. Such batteries must be packed in inner packagings in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. No smoking at working site.

Storage:

Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Store in a tightly closed container. Incompatibilities: strong oxidizing agents, corrosives and foods.

SECTION 8 EXPOSURE CONTROL/PPE

Engineering Controls: Use ventilation equipment if available. Safety shower and eye bath.

Personal Protective Equipment:

Clothing : Wear appropriate protective clothing.

Hand: Safety gloves.

Other Protect: No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION 9 PHYSICAL/CHEMICAL PROPERTIES

Appearance: Pale green cylindrical metal shell (containing electrolytes)

Odor: Odorless

Melting Point: >300 °C

Solubility: Partial soluble in water

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SECTION10 STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Materials to Avoid: Strong oxidizing agents, Corrosives.

Conditions to Avoid: Avoid exposure to heat and open flame. Do not puncture, crush or incinerate, prevent short circuits. Prevent movement which could lead to short circuits.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Metal oxides.

SECTION11 TOXICOLOGICAL INFORMATION

Toxicity DATA: NO data available.

Irritation Data: The internal battery materials may cause irritation to eyes and skin.

SECTION12 ECOLOGICAL INFORMATION

No data available.

SECTION13 DISPOSAL CONSIDERATIONS

Appropriate Method of Disposal of substance:

Contact a licensed professional waste disposal service to dispose of this material.

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 circuit and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for NEXcell nickel metal hydride batteries has been designed to be compliant with these regulatory concerns.

- IATA Dangerous Goods Regulations 58th Edition (2017)
- ICAO Technical Instructions for the safe transport of dangerous goods by air
- The products is handled as Non-Dangerous Goods by based on IATA (A123) for air shipment
- The Products is handled as following by based on un3496 (SP963) for sea shipment.

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1. Nickel-metal hydride button cell or nickel-metal hydride cells or batteries packed with or contained in equipment are Non-Dangerous Goods.
2. All other nickel-metal hydride cells or batteries shall be securely packed and protected from short circuit. They are Non-Dangerous Goods provided they are loaded in a cargo transport unit in a total quantity of less than 100kgs gross mass.
3. When loaded in cargo transport unit in a total quantity of 100 kg gross mass or more, they are Dangerous Goods (Class 9).
4. special provisions.
- 5.

Regulatory Body	Special Provisions
ADR	295-304,598
IMDG	UN3496 SP963
UN	UN 3028 Provision 130
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	UN 3028 Provisions 295-304

SECTION15 REGULATORY INFORMATION

EU Additional classification:

S36/37

Safety Statement: Wear suitable protective clothing and gloves.

SECTION16 OTHER INFORMATION

None.