

# MATERIAL SAFETY DATA SHEET

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

**Product Name** : NEXcell Ni-MH Battery

**Volts** : 1.2 V/cell

**Chemical System** : Nickel Metal Hydride.

**Recharge** : Yes

**Company Name**: NEXcell Battery Co., Ltd.

**Address**: 3F, NO. 24, PROSPERITY RD. II, SCIENCE PARK HSINCHU, TAIWAN 300

**Telephone#**: +886-3-578-3800

**Emergency phone#**: +886-3-578-3800

**Date of preparation** : Jan. 02, 2026

## SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	EC No.	EU Directive 67/548/EEC Annex I Index No.	Conc.
Nickel	7440-02-0	231-111-4	028-002-00-7	35.50%
Nickel Hydroxide	12054-48-7	235-008-5	028-008-00-X	28.5%
Lanthanum	7439-91-0	231-099-0	/	12.50%
Cerium	7440-45-1	231-154-9	/	11.00%
Cobalt	7440-48-4	231-158-0	027-001-00-9	7.60%
Manganese	7439-96-5	231-105-1	/	3.00%
Potassium Hydroxide	1310-58-3	215-181-3	019-002-00-8	1.00%
Sodium Hydroxide	1310-73-2	215-185-5	011-002-00-6	0.50%
Lithium Hydroxide	1310-65-2	215-183-4	/	0.30%
Neodymium	7440-00-8	231-109-3	/	0.10%

## SECTION 3. HAZARDS IDENTIFICATION

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

**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 electrolyte contained inside the battery may result in severe irritation and chemical burn.

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## SECTION 4. FIRST AID MEASURES

Under normal conditions of use, the battery is hermetically sealing

**Ingestion:** Swallowing a battery can be harmful

Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

If battery or open battery is ingested, do not induce vomiting or mouth or give food or drink. Seek medical attention immediately. call national battery ingestion hotline (202-625-333) for advice and follow-up.

**Inhalation:** Contents of an open battery can cause respiratory irritation hypersensitivity to nickel can cause allergic pulmonary asthma. Provide fresh air and seek medical attention.

**Skin contact:** Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

**Eye contact:** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

## SECTION 5. FIRE FIGHTING MEASURES

If fire or explosion occurs when batteries are on charge, shut off power charger.

In case of fire where nickel metal hydride batteries are present, apply a smothering agent such as METL-X, sand, dry ground dolomite, or soda, ash, or flood the area with water. A smothering agent will extinguish burning nickel hydride batteries. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving nickel metal hydride batteries can be controlled with water. When water is used, however, hydrogen gas may evolve. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agent is recommended.

Fire fighters should wear self-contained breathing apparatus. Burning nickel metal hydride batteries can produce toxic fumes including oxides of nickel, cobalt, aluminum, manganese, lanthanum, cerium, neodymium, and praseodymium.

Special fire fighting procedures: exposure to temperatures of above 212°F(100°C) can cause venting of the liquid electrolyte.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**To cleanup leaking batteries:**

**Ventilation Requirements:** Room ventilation may be required in area where there are open or leaking batteries.

**Eye Protection:** Wear safety glasses with side shields if handling an open or leaking battery.

**Gloves:** Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

## SECTION 7. HANDLING AND STORAGE

**Storage:** Store in a cool, well-ventilated area, elevated temperature can result in shortened battery life.

**Mechanical containment:** Never seals or encapsulate nickel metal hydride battery.

Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and

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can cause high-pressure rupture.

**Handling:** Accidental short circuit for a few seconds will not seriously affect the battery. However, this battery is capable of delivering very high short circuit currents. Prolonged short circuits will cause high cell temperatures, which can cause skin burns. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, use of labeled batteries is recommended.

Do not open the battery. The negative electrode material may be pyrophobia. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

**Charging:** This battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before use. Use recommended charger. Improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.

**WARNING:** (1) KEEP AWAY FROM SAMLL CHILDREN. IF SWALLOWED, PROMPTLY SEE DOCTOR: HAVE DOCTOR PHONE (202) 625-3333 COLLECT. (2) CHARGE ONLY WITH SPECIFIED CHARGERS ACCORDING TO DEVICE MANUFACTURE'S INSTUCTIONS. DO NOT OPEN BATTERY, DISPOSE OF IN FIRE OR SHORT CIRCUIT –MAY IGNITE, EXPOLOSED, LEAK OR GET HOT CAUSING PERSONAL INJURY.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROSTECTION

**Ventilation Requirements:** Not necessary under normal conditions:

**Respiratory Protection:** Not necessary under normal conditions.

**Eye Protection:** Not necessary under normal conditions.

**Gloves:** Not necessary under normal conditions.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Boiling Point@760 mm Hg ( °C )</b>	<b>Not Applicable for an Article</b>
<b>Vapor Pressure ( mm Hg @ 25°C)</b>	<b>Not applicable for an Article</b>
<b>Vapor Density (Air = 1)</b>	<b>Not applicable for an Article</b>
<b>Density ( g/ cm<sup>3</sup>)</b>	<b>2.5-3.7</b>
<b>Percent Volatile by Volume(%)</b>	<b>Not applicable for an Article</b>
<b>Evaporation Rate ( Butyl Acetate =1 )</b>	<b>Not applicable for an Article</b>
<b>Physical Sate</b>	<b>Solid</b>
<b>Solubility in Water(% by weight)</b>	<b>Not applicable for an Article</b>
<b>p<sup>H</sup></b>	<b>Not applicable for an Article</b>
<b>Appearance and Odor</b>	<b>Solid object/ no odor</b>

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## SECTION 10. STABILTY AND REACTIVITY

Nickel metal hydride batteries do not meet any of the criteria established in 40 CFR 26.1.1 for 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.

## SECTION 11. TOXICOLOGICAL INFORMATION

Nickel metal hydride batteries are not hazardous waste. Under normal conditions of use, nickel metal hydride batteries are non-toxic.

## SECTION 12. ECOLOGICAL INFORMATION

Issue such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

## SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling. Nickel metal hydride batteries can also be collected as part of the Rechargeable Battery Recycling Corporation (RBRC) program.

## SECTION 14. TRANSPORT INFORMATION

NEXcell nickel metal hydride button cells/batteries are considered to be "dry cell" batteries and are unregulated for purpose of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and the International Maritime Organization (IMO), the "Accord Europeen Relatif au Transport International des Marchandises Dangereuses par Route"(ADR) and the "Reglement concernant le transport international ferroviaire de marchandises Dangereuses" (RID) .

IATA DGR: Special Provision A199 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 issued. "In addition in the 66<sup>th</sup> 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 provision of this Code."

EU (ADR/RID): Chapter 3.2 Table A: "Batteries, nickel-metal hydride, UN3496, not subject to ADR"

USA: 49 CFR § 172.102 Special Provision 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

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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 packaging made of non-conductive materials; (ii) Separating or packaging batteries in a manner to prevent contact with other batteries, devices or conductive materials (e.g. metal) in the packaging”....

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

## **SECTION 15. REGULATORY INFORMATION**

Batteries marked by NEXcell Battery CO., Ltd. Are not classified as dangerous goods by the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III- As article, this battery and its contents are not subject to the requirements of the Emergency Planning Community Right-To-Know Act.

This product is not hazardous under the criteria of the Federal Occupational Safety and Health Administration(OSHA) Hazard Communication Standard.(29 CFR 1910.1200)

Hazardous                       Non-hazardous

This product is in compliance with the EU regulation 1907: 2006(REACH) and following amendments of the candidate list "SVHC" (last available update)

## **SECTION 16. OTHER INFORMATION**

None.

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