Material Safety Data Sheet

1. Identification of Substance

Product Details

Product Name: **NI-MH RECHARGEABLE BATTERY**

Product Model: NI-MH cylindrical rechargeable battery:
NI-MH: 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
NI-MH: AAA100mAh, AAA150mA, AAA200mAh, AAA250mAh, AAA300mAh, AAA350mAh, AAA400mAh, AAA450mAh, AAA500mAh, AAA600mAh, AAA700mAh, AAA800mAh, AAA900mAh, AAA1000mAh
NI-MH: 1/3AAA80mAh, 1/3AAA100mAh, 1/3AAA120mAh, 1/3AAA150mAh, 1/3AAA180mAh, 1/3AAA200mAh
NI-MH: 2/3AA100mAh, 2/3AA150mAh, 2/3AA200mAh, 2/3AA250mAh, 2/3AA300mAh, 2/3AA350mAh, 2/3AA400mAh, 2/3AA450mAh, 2/3AA500mAh, 2/3AA550mAh, 2/3AA600mAh
NI-MH: 2/3AAA100mAh, 2/3AAA150mAh, 2/3AAA200mAh, 2/3AAA250mAh, 2/3AAA300mAh, 2/3AAA350mAH, 2/3AAA400mAH, 2/3AAA450mAh, 2/3AAA500mAh, 2/3AAA550mAh, 2/3AAA600mAh
NI-MH: SC600mAh, SC700mAh, SC800mAh, SC900mAh, SC1000mAh, SC1100mAh, SC1200mAh, SC1300mAh, SC1400mAh, SC1500mAh, SC1600mAh, SC1700mAh, SC1800mAh, SC1900mAh, SC2000mAh, SC2100mAh, SC2200mAh, SC2300mAh, SC2400mAh, SC2500mAh, SC2600mAh, SC2700mAh, SC2800mAh, SC2900mAh, SC3000mAh
NI-MH: C1500mAh, C1800mAh, C2000mAh, C2500mAh, C3000mAh, C3500mAh, C4000mAh
NI-MH: D3000mAh, D3500mAh, D4000mAh, D4500mAh, D5000mAh, D6000mAh, D7000mAh, D8000mAh
NI-MH Button Rechargeable Battery:
NI-MH: 40mAh, 60mAh, 80mAh
(1.2V, 2.4V, 3.6V, 4.8V, 6.0V, 7.2V, 8.4V, 9.6V, 10.8V, 12V), etc.

Manufacturer/Supplier By: **XINXIANG BOYAN POWER SUPPLY CO., LTD**
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2. 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 NI-MH Rechargeable 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

3. Composition/Data on Components

COMPONENT	CAS No.	% By wt.
NiOH	12054-48-7	20%
LaNi5	12196-72-4	8%
FeO	1345-25-1	16.7%
Water	7732-18-5	18.3%
KOH	1310-58-3	31.6%
NaOH	1310-73-2	2.8%
Graphite Powder	7782-42-5	2.6%

4. First aid Measures

Under normal conditions of use, the battery is hermetically sealed. If cell is leaking

Eyes: 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.

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

Inhalation: Provide fresh air and seek medical attention.

Ingestion: Swallowing a battery can be harmful. Do not induce vomiting or give food or drink. Seek medical attention immediately.

5. Fire Fighting Measures

Suitable extinguishing agents: Water spray, carbon dioxide, dry chemical or foam.

Special hazards caused by the material, its products of combustion or resulting gases: Emits toxic fumes under fire conditions.

Protective equipment: If fire or explosion occurs when batteries are on charge, shut off power to 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 metal hydride batteries. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will not 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 agents are recommended. Fire fighters should wear self-contained breathing apparatus. Burning nickel metal hydride batteries can produce toxic fumes including oxides of nickel, cobalt, aluminum, lanthanum, cerium and neodymium.

Special Fire-Fighting Procedures: Wear protective equipment. Fire fighters should wear positive pressure self–contained breathing apparatus (SCBA).

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 open or disassemble batteries.
Storage:	Store in a cool (preferable below 25°C), well venti lated area, away from moisture, sources of heat, and open flames. Elevated temperatures can result in shortened battery life. Temperatures above 70°C may result in battery leakage and rupture. Keep adequate clearance between walls and batteries. Since short circuit can cause burn, leakage and rupture hazard, keep batteries in original packaging until use and do not jumble them.
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

National occupational exposure and biological limit values:	Under normal conditions release of ingredients does not occur.
Appropriate engineering controls:	
Personal protective equipment:	Not necessary under normal conditions. Room ventilation may be required in areas where there are open or leaking batteries.
Eye protection:	Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.
Skin and body protection:	Not necessary under normal conditions.
Hand protection:	Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery
Respiratory protection:	Not necessary under normal conditions. Avoid exposure to electrolyte fumes from open or leaking battery. In all fire situations use self-contained breathing apparatus
Thermal hazard protection:	Not required for normal conditions of use.
Environmental exposure controls:	Avoid release to the environment. Do not allow to enter drains or water courses.
Other information:	Do not eat, drink or smoke during use.

9. Physical and Chemical Properties

General Information

Form:	Battery
Color:	Mixed Color
Odor:	Mixed Odorless
Voltage:	1.2V

Capacity:	300MAH
Flash point:	Not applicable unless individual components exposed.
Flammability:	Not applicable unless individual components exposed.
Relative density:	Not applicable unless individual components exposed.
Solubility (water):	Not applicable unless individual components exposed.
Solubility (other):	Not applicable unless individual components exposed.

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

The sealed nickel-metal hydride battery as a product are not presenting ecotoxicological hazards. In case of product destruction or opening, the substances described in paragraph 11 can come in contact of the environment. The metals content in a nickel-metal hydride battery are toxics for the environment. If not recycled, it must be disposed of in accordance with all state and local regulations.

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

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 circuits and be contained in “strong outer packaging” that prevents spillage of contents. Nickel metal hydride batteries (also as “Dry cell” batteries) are not defined as dangerous goods under the IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). Nickel metal hydride batteries are defined as dangerous goods under the IMDG code. For air and ground transportation, these batteries are not subject to the dangerous goods regulations as they are compliant with the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
IMDG（IMDG Code 2024 Edition (Amendment 42-24) (International Maritime Dangerous Goods Code)	Not Regulated/ Not restricted , unless in excess of 100Kg, Class 9, UN3496 SP117 and SP 963
UN (United Nations)	Not Regulated/ Not restricted
US DOT (United States Department of Transportation)	49 CFR 172.102 Provision 130
IATA Dangerous Goods Regulations (DGR) 2026 67th Edition	Not Regulated/Not restricted UN 3496 and A199
ICAO (Int’l Civil Aviation Organization)	Not Regulated/Not restricted

In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

15. Regulations

UN Model Regulations Rev. 24 (2025)

ICAO Emergency Response Guidance, 2025-2026 Edition

IATA (International Air Transport Organization): Dangerous Goods Regulations 67th Edition; Effective January 1st, 2026

ADR 2025 - Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG Code 2024 Edition (Amendment 42-24)

EU Battery Directive(EU) 2023/1542

16. Other Information

DISCLAIMER OF LIABILITY

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