



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 1 of 8

1. Identification Of Substance

Product Details

Product Name:

NI-MH RECHARGEABLE BATTERY

Product Model:

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, AAA150mAh, AAA200mAh, AAA250mAh, AAA300mAh, AAA350mAh, AAA400mAh, AAA450mAh, AAA500mAh, AAA600mAh, AAA700mAh, AAA800mAh, AAA900mAh, AAA1000mAh
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: 4/5AA100mAh, 4/5AA200mAh, 4/5AA300mAh, 4/5AA350mAh, 4/5AA400mAh, 4/5AA500mAh, 4/5AA600mAh, 4/5AA700mAh, 4/5AA800mAh, 4/5AA900mAh, 4/5AA1000mAh, 4/5AA1100mAh, 4/5AA1200mAh, 4/5AA1300mAh, 4/5AA1400mAh, 4/5AA1500mAh, 4/5AA1600mAh, 4/5AA1700mAh, 4/5AA1800mAh, 4/5AA1900mAh
Ni-MH: 4/5SC600mAh, 4/5SC700mAh, 4/5SC800mAh, 4/5SC900mAh, 4/5SC1000mAh, 4/5SC1100mAh, 4/5SC1200mAh, 4/5SC1300mAh, 4/5SC1400mAh, 4/5SC1500mAh, 4/5SC1600mAh, 4/5SC1700mAh, 4/5SC1800mAh, 4/5SC1900mAh, 4/5SC2000mAh,
Ni-MH: SC600mAh, SC700mAh, SC800mAh, SC900mAh, SC1000mAh, SC1100mAh, SC1200mAh, SC1300mAh, SC1400mAh, SC1500mAh, SC1600mAh, SC1700mAh, SC1800mAh, SC1900mAh, SC2000mAh, SC2200mAh, SC2400mAh, SC2600mAh, SC2800mAh, SC3000mAh,
Ni-MH: C1500mAh, C1800mAh, C2000mAh, C2500mAh, C3000mAh, C3500mAh, C4000mAh
Ni-MH: D3000mAh, D3500mAh, D4000mAh, D4500mAh, D5000mAh,

EU



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 2 of 8

D6000mAh, D7000mAh, D8000mAh

Product Use:

Solar lights, LED emergency lights, Cordless telephones, Walkmans, Electronic tools and so on.

Manufacturer/Supplier By:

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2. Composition/Data On Components

COMPONENT	CAS #	% 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	310-73-2	2.8%
Grathite Powder	7782-42-5	2.6%

3. Hazards Identification

The rechargeable NiMH batteries described in this Product Safety Data Sheet are sealed units which are not hazardous when used according to the recommendations of the manufacturer and as long as their integrity is maintained. Do not short circuit, puncture, incinerate, crush, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion. Under normal conditions of use, the active materials and liquid electrolyte contained in the cells and batteries are not exposed to the outside, provided the battery integrity is maintained and seals remain intact. Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and/or the rupture of the battery container. Electrolyte leakage or battery vent/explosion/fire may follow, depending upon the circumstances.



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 3 of 8

4. First aid Measures

In case of accumulator breakage or burst, please evacuate employees from the contaminated area and ensure maximal ventilation in order to break-up corrosive gas, smoke and unpleasant odours. If it occurs, by accident, following measures must be taken:

Inhalation:	Provide fresh air. In severe cases obtain medical attention.
Skin Contact:	Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use. In severe cases obtain medical attention.
Eye Contact:	Irrigate thoroughly with water for at least 15 minutes. Lifting upper and lower lids, until no evidence of the chemical remains. Obtain medical attention.
Ingestion:	Wash out mouth thoroughly with water. Do not induce vomiting or give food or drink. Seek medical attention immediately.
Further treatment:	All cases of eye contamination, persistent skin irritation and casualties who have swallowed this substance or been affected by breathing its vapours should be seen by a doctor.

5. Fire Fighting Measures

Suitable extinguishing agents:	CO ₂ , extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment. 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
Protective equipment:	

6. Accidental Release Measures

Methods for Containment:	Remove personnel from area until fumes dissipate. Do not breathe vapours or
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EU



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 4 of 8

touch liquid with bare hands. Provide sufficient room ventilation if required. If the skin has come into contact with the electrolyte, it should be washed thoroughly with water. Use neoprene or natural rubber gloves and protective glasses, if handling an open or leaking battery. Battery materials should be collected in a leak-proof container and disposed of as Special Waste in accordance with local regulations.

7. Handling And Storage

- Storage:** Store in a cool (preferable below 25°C), well ventilated 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.
- Handling:** Do not crush, pierce, short (+) and (-) battery terminals with conductive (i.e. metal) goods, which would end up into excessive heating. Do not directly heat or solder. Do not throw into fire. Do not mix batteries of different types and brands. Do not mix new and used batteries. Keep batteries in non conductive (i.e. plastic) trays. Do not disassemble, mutilate or mechanically abuse cells and batteries. In order to prevent seal or safety vent damage, never solder the batteries directly at the battery terminals.
- Charging:** This battery is made to be charged many times. Use only specified charger. Follow manufacturer data in respect of charge current and charge time. Note correct polarity. Improper charging can cause heat damage or even high pressure rupture.
- Disposal:** Dispose in accordance with all applicable federal, state and local regulations.

8. Exposure Controls And Personal Protection

- Respiratory protection:** If the battery leaks, the need for full ventilation.
- Hand Protection:** Under normal use, do not.
- Personal Protection:** Under normal use, do not.
- Other protection:** Under normal use, do not.

If the battery leaks, must wear the following protection products.

EU







Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 5 of 8

	Respiratory protection	In all fire situations, use self-contained breathing apparatus.
	Hand protection	In the event of leakage wear gloves.
	Eye protection	Safety glasses are recommended during handling.
	Other	In the event of leakage, wear chemical apron.

9. Physical And Chemical Properties

General Information

Nominal Voltage:	1.2V
Capacity:	8000MAH
Appearance characters:	Mixed with odorless battery
PH:	12

10. Stability And Reactivity

Product is stable under conditions described in Section 7.

Conditions to avoid: Heat above 70° or incinerate. Deform. Mutilate. Crush. Pierce. Disassemble. Short circuit. Expose over a long period to humid conditions.

Materials to avoid: Strong mineral acids, alkali solutions, strong oxidising materials and conductive materials.

Hazardous decomposition products: Electrolyte solution is corrosive to all human tissues and will react violently with many organic chemicals. Electrolyte solution reacts with zinc, aluminum, tin and other materials releasing flammable hydrogen gas.



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 6 of 8

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 NiMH cells 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 NiMH 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

Disposal should be in accordance with national and local regulations. Do not incinerate for disposal except for in a controlled incinerator. Nickel metal hydride rechargeable batteries are labeled in compliance with the EU Battery Directive 2006/66.

14. Transport Information

According to DGR 60th edition Special Provision A199 batteries are prepared in accordance with the special provision they are "not restricted" in air transport. UN 3496 Nickel metal hydride batteries are not subject to the Department of Transportation (DOT), International Air Transport Association (IATA), and International Maritime Dangerous Goods (IMDG) regulations when all the requirements of the appropriate special provisions are met. All batteries must be securely packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be prepared and packaged in a manner that prevents a dangerous evolution of heat, short

EU



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 7 of 8

circuits, and damage to the batteries' terminals.

International Maritime Organization (IMO) IMDG Code regulated these products as UN 3496 BATTERIES, NICKEL METAL HYDRIDE, class 9 dangerous goods with Special Provision 117 and 963 assigned SP117

Only regulated when transported by sea.

SP963

nickel-MH batteries packed with or contained in equipment are not subject to the 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 they 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.

15. Regulations

Law Information

- 《Dangerous Goods Regulation》
- 《Recommendations on the Transport of Dangerous Goods Model Regulations》
- 《International Maritime Dangerous Goods》
- 《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)

2006/66/EC

In accordance with all Federal, State and Local laws.

EU



Material Safety Data Sheet

MSDS Code: EBO1901007-M017

Date of Issue: January 8, 2019

NI-MH RECHARGEABLE BATTERY

Page 8 of 8

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.

