Material Safety Data Sheet

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, D6000mAh, D7000mAh, D8000mAh

Product use: Solar lights,LED emergency lights,cordless telephones,walkmans,electronic tools and so on

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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 Nickel-Metal hydride cell/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

Eyes: Immediately flush eyes with running water for at least 15 minutes without interruption. Seek medical advice.

Skin: Remove contaminated clothing. Wash with plenty of soap and water. If irritation occurs, get medical attention.

Inhalation: Move to fresh air. Seek medical attention if irritation persists.

Ingestion: In case of ingestion of electrolyte Do not induce vomiting. If victim is conscious and alert give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek immediate medical advice.

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

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.

	**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

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 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

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

According to IATA DGR 62nd Edition 2021 Special Provision A199 batteries are prepared in accordance with the special provision they are “not restricted” in air transport. UN 3496 Nickle 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 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)
In accordance with all Federal, State and Local laws.

16. Other Information

DISCLAIMER OF LIABILITY

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