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, AA650mAh, AA700mAh, AA800mAh, AA850mAh, AA900mAh, AA1000mAh, AA1100mAh, AA1200mAh, AA1300mAh, AA1400mAh, AA1500mAh, AA1600mAh, AA1700mAh, AA1800mAh, AA1900mAh, AA2000mAh, AA2100mAh, AA2200mAh, AA2300mAh, AA2400mAh, AA2500mAh, AA2600mAh, AA2700mAh
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, C5000mAh
Ni-MH: D3000mAh, D3500mAh, D4000mAh, D4500mAh, D5000mAh, D6000mAh, D7000mAh, D7500mAh, D8000mAh

Product use: Solar lights, LED emergency lights, Cordless telephones, Walkmans, Electronic

tools and so on.

Manufacturer/Supplier By: **HUIXIAN SUNRISE POWER SOURCE 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”.
Rechargeable NiMH Batteries are not hazardous in normal use.
In case of mistreatment (abusive overcharge, prolonged deep discharge, reverse charge, external short circuit, drop ...) and in case of fault, some electrolyte can leak from the cell. 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 damaging of the cell or if exposed to fire.
In case of mistreatment (abusive overcharge, external short circuit, drop ...) and in case of fault cells may generate heat.

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: If exposed to internal components of the battery, flush with running water for at

	least 15 minutes and then seek medical attention.
Skin:	If exposed to internal components of the battery, wash the immediate area with running water and soap for at least 15 minutes. If irritation persists, seek medical attention.
Inhalation:	Contents of leaking battery may be irritating to respiratory passages. Move to fresh air and seek medical attention if irritation persists.
Ingestion:	Do not induce vomiting. Seek immediate medical attention.

5. Fire Fighting Measures

Extinguishing Media:	Use fire-extinguishing media appropriate for surrounding materials.
Unusual Fire and Explosion Hazards:	Leak from a damaged or opened battery: Do not use water unless flooding amounts are available.
Hazardous Combustion Products:	In the event of fire and/or explosion do not breathe fumes. Irritating, corrosive and/or toxic gases or fumes will be released during a fire. Combustion products may include: carbon oxides, metal oxides.
Special Fire-Fighting Procedures:	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

6. Accidental Release Measures

Person related measures:	None under normal use conditions. In the event of damage resulting in a leak or exposed materials, avoid contact with contents of an open or damaged cell or battery. Wear protective clothing as described in section 8 of this safety data sheet.
Environment protection measures:	Avoid allowing material from exposed battery to contaminate soil, sanitary sewers, or waterways
Treatment for cleaning:	Leak from a damaged or opened battery: Contain spillage with sand or earth. Transfer to a container for disposal. For waste disposal, see Section 13 of the SDS.

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: Keep out of reach of children. Prevent short circuits. Store in original packaging. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Store away from incompatible materials (See Section 10). Do not store at temperatures above 60 °C (140 °F).

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

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

Nickel Metal Hydride batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under

the International Civil Aviation Organization (ICAO), 2022 edition, International Air Transport Association (IATA 65th edition 2024), or U.S. Department of Transportation. (DOT), 49 CFR (except when transported by vessel). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following Special Provisions. Special Provision A123 in the IATA Dangerous Goods Regulations and ICAO Technical Instructions and Special Provision 130 in 49 CFR 172.102 of the U.S. hazardous materials regulations require these batteries to be packed in such a way to prevent short circuits or generating a dangerous quantity of heat. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “Not Restricted” and “Special Provision A123” to be provided on the air waybill, when an air waybill is issued. Effective January 1, 2012 the International Maritime Organization (IMO) regulates shipments by ocean, in excess of 100 Kg, as a Class 9 dangerous good under UN 3496 and Special Provision 117 and 963.

15. Regulations

UN (United Nations): Recommendations on the Transportation of Dangerous Goods Model Regulations, Seventh revised edition, New York and Geneva 2019, Rev. 23, 2023

ICAO (International Civil Aviation Organization): Technical Instructions for the safety transport of dangerous goods by air 2023-2024

IATA (International Air Transport Organization): Dangerous Goods Regulations 65th Edition; Effective January 1st, 2024

UN ADR Dangerous Goods by Road "2023" 2023/2024 (Code B4-23)

IMO (International Maritime Organization): International Maritime Dangerous Goods (IMDG) Code 2022 Edition (Amendment 41/22)

EU Battery Directive 2006/66/EC and Amendments 2013/56/EU

16. Other Information

DISCLAIMER OF LIABILITY

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