Report No.: ATSM241208111

Material Safety Data Sheet

Sample name : Ni-MH Battery

Consignor : SHENZHEN TMK POWER INDUSTRIES LTD

ATS Electronic Technology Co., Ltd.

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Material Safety Data Sheet

1. Identification of the product and supplier	
Name of goods	Ni-MH Battery
Type/Mode	Ni-MH
Ratings	1.2V
Commissioned by	SHENZHEN TMK POWER INDUSTRIES LTD
Commissioner address	Floor 3 and 4， No.8 Industrial Park, XiaLingPai, Dalang Community, Longhua District, Shenzhen City .
Manufacturer	SHENZHEN TMK POWER INDUSTRIES LTD
Manufacturer address	Floor 3 and 4， No.8 Industrial Park, XiaLingPai, Dalang Community, Longhua District, Shenzhen City .
Inspection according to	EEC Directive 93/112/EC UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS”
Emergency telephone call	+86-755-29735869
Receiving date: 2024-12-16	Issue date: 2025-01-01

Tested by: **Reviewed by:** **Approved by:**

2. Composition/Information on Ingredient

Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)	CAS Number
Iron	15%	7439-89-6
Nickel hydroxide	35%	12054-48-7
Hydrogen absorbing alloy	30%	N/A
Copper	8%	7440-50-8
Potassium hydroxide liquid	12%	1310-58-3
Lead	Not Detected	7439-92-1
Cadmium	Not Detected	7440-43-9
Mercury	Not Detected	7439-97-6

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply

3. Hazards Identification

Explosive risk	This article does not belong to the explosion dangerous goods
Flammable risk	This article does not belong to the flammable material
Oxidation risk	This article does not belong to the oxidation of dangerous goods
Toxic risk	This article does not belong to the toxic dangerous goods
Radioactive risk	This article does not belong to the radiation of dangerous goods
Mordant risk	This article does not belong to the corrosion of dangerous goods
other risk	The sample Ni-MH battery listed in this report is small sealed nickel metal hydride batteries used in portable power supply. According to the relevant provision of UN “Recommendations on the TRANSPORT OF DANGEROUS GOODS” ST/SG/AC.10/1/Rev.18, IATA Dangerous Goods Regulations 66th Edition 2025 and IMDG CODE (Amdt.42-24) Edition, the sample doesn’t belong to Dangerous Goods. And it complies with Special Provision A199

4. First aid measures

Eye

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

5. Fire-fighting measures

Flash Point: N/A.

Auto-Ignition Temperature: N/A.

Extinguishing Media: Water, CO2.

Special Fire-Fighting Procedures

Self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Cell may vent when subjected to excessive heat-exposing battery contents.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide

6. Accidental release measures

Steps to be Taken in case Material is Released or Spilled

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method

Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

7. Handling and storage

Handling

Don't handling Nickel metal hydride battery with metalwork. Do not open, dissemble, crush or burn battery. Ensure good ventilation/ exhaustion at the workplace. Prevent formation of dust. Information about protection against explosions and fires: Keep ignition sources away- Do not smoke.

Storage

If the batteries are subject to storage for such a long term as more than 3 months, it is recommended to recharge the Nickel metal hydride battery periodically.

Storage Temperature

Short period less than 3 months: -20~+45°C, 75%RH Max

Long period more than 3 months: +5°C ~+35°C,75%RH Max

Do not storage Nickel metal hydride battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children. Do not expose Nickel metal hydride battery to heat or fire. Avoid storage in direct sunlight. Do not store together with oxidizing and acidic materials.

8. Exposure controls/personal protection

Engineering control

Use local exhaust ventilation or other engineering controls to control sources of dust, mist, fumes and vapor. Keep away from heat and open flame. Store in a cool, dry place.

Respiratory protection

Not necessary under normal conditions.

Skin and body Protection

Not necessary under normal conditions, Wear neoprene or nitrile rubber gloves if handling an open or leaking battery.

Eye protection

Not necessary under normal conditions, Wear safety glasses if handling an open or leaking battery.

Hands protection

Wear neoprene or natural rubber material gloves if handling an open or leaking battery.

Others protection

Have a safety shower and eye wash fountain readily available in the immediate work area.

Hygiene Measures

Do not eat, drink, or smoke in work area. Maintain good housekeeping.

9. Physical and chemical properties

Appearance: Cylindrical shape

Ref. No.: N/A

Odour: If leaking, smells of medical ether.

pH: Not applicable as supplied.

Flash Point: N/A

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

Stability: The product is stable under normal conditions.

Conditions to avoid:

Do not subject Nickel metal hydride battery to mechanical shock.

Vibration encountered during transportation does not cause leakage, fire or explosion.

Do not disassemble, crush, short or install with incorrect polarity. Avoid mechanical or electrical abuse.

Materials to avoid: Oxidising agents, alkalis, water.

Hazardous Decomposition Products: Toxic Fumes, and may form peroxides.

Hazardous Polymerization: N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

11. Toxicological information

Signs & symptoms: None, unless battery ruptures.

In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.

Inhalation: Lung irritant.

Skin contact: Skin irritant

Eye contact: Eye irritant

Ingestion: Poisoning if swallowed

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to server irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

12. Ecological information

Mammalian effects: None known at present.

Eco-toxicity: None known at present.

Bioaccumulation potential: Slowly Bio-degradable.

Environmental fate: None known environmental hazards at present.

13. Disposal consideration

Do not incinerate, or subject cells to temperature in excess of 70°C, Such abuse can result in loss of seal leakage, and/or cell explosion. Dispose of in accordance with appropriate local regulations.

14. Transport information

This report applies to by sea, by air and by land;

The Nickel metal hydride battery was protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit;

The Nickel metal hydride battery according to the IATA Dangerous Goods Regulations 66th Edition special provisions A199, the sample list in this report can be transport as normal goods, the words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill. According to IMDG CODE (Amdt.42-24) Edition special provisions, the Ni-MH button cell Ni-MH cells or batteries install in(or packed with) equipments, and the battery in the carriage of goods by a single component does not exceed the total weight of 100 kg, does not apply to any other provisions of this rule of IMDG.

More information concerning shipping, testing, marking and packaging can be obtained from label master at http://www.labelmaster.com/.

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.

The package must be handled with care and that a flammability hazard exists if the package is damaged;

With regard to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions.

- The International Air transport Association (IATA) Dangerous Goods Regulations.

UN Proper shipping name/Description (technical name): BATTERIES, NICKEL-METAL HYDRIDE;

UN Classification (Transport hazard class): Non dangerous;

Marine pollutant(Y/N): N;

- The International Maritime Dangerous Goods (IMDG) Code.

For Nickel metal hydride batteries by sea, provided that packaging is strong and prevent the products from short-circuit.

UN number of battery: UN3496;

UN Proper shipping name/Description (technical name): BATTERIES, NICKEL-METAL HYDRIDE;

UN Classification (Transport hazard class): Non dangerous;

Marine pollutant(Y/N): N;

- The US Hazardous Materials Regulation (HMR) pursuant to a final rule issued by RSPA

- The Office of Hazardous Materials Safety within the US Department of Transportations’ (DOT) Research and Special

Programs Administration (RSPA)

15. Regulation information

OSHA hazard communication standard (29 CFR 1910.1200)

	Hazardous	√	Non-hazardous

16. Other information

This information is not effective to all the batteries manufactured by SHENZHEN TMK POWER INDUSTRIES LTD. This information comes from reliable sources, but no warranty is made to the completeness and accuracy of information contained. ATS Electronic Technology Co., Ltd. doesn't assume responsibility for any damage or loss because of misuse of batteries. User's should grasp the correct use method and be responsible for the use of batteries.