



Safety Data Sheets (SDSs)

Section 1 - Identification

Product Name: Nickel Metal Hydride Rechargeable Battery (NIMH Battery)

Manufacturer / Distributor Name: AA Portable Power Corp

Address: 825 S 19th Street, Richmond, CA 94804, **Tel:** 510-525-2328 **Fax:** 510-439-2808

Email: sales@batteryspace.com

Emergency Tel (Within USA and Canada): Here should be your company's emergency tel.

Emergency Tel (Outside USA and Canada) for Shipment to USA: Here should be your company's emergency tel.

Recommended Use: General use

Restrictions on Use: N/A

Section 2 – Hazard(s) Identification

Most important hazard and effects

For the battery cell, chemical materials are stored in a hermetically sealed metal case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials' leakage.

However, if exposed to a fire, added mechanical shocks, decomposed, added electric stress by misuse, the gas release vent will be operated. The battery cell case will be breached at the extreme. Hazardous materials may be released.

Moreover, if heated strongly by the surrounding fire, acrid or harmful fume may be emitted.

Human health effects:

- **Ingestion:** The electrolyte ingestion irritates the mouth and the throat seriously results in vomiting, nausea, hematemesis, stomach pains and diarrhea.
- **Inhalation:** The electrolyte inhalation affects the respiratory tract membrane and the lungs. Fume may cause a cough, chest pain and dyspnea. Bronchitis and pneumonia may occur. Possibly could be carcinogen.
- **Skin Contact:** The electrolyte skin contact affects the skin seriously and may cause dermatitis.
- **Eye Contact:** The electrolyte leaked from the battery cell is strong alkali. When it goes into an eye, the cornea may be affected and it may lead to blindness.

Environmental effects: Since a battery cell remains in the environment, do not throw out it into the environment.

Specific hazards: As previously described.

Section 3 – Composition/Information on Ingredients

Common chemical name / General name	CAS number	Concentration / Concentration range	Classification and hazard labeling
Hydrogen Absorbing Alloy	7440-02-0(Ni), 7440-48-4(Co) 7439-96-5(Mn), 7429-90-5(Al)	20-40%	specific hazard
Nickel-Cobalt-Zinc oxide	7440-02-0(Ni), 7440-48-4(Co) 7440-66-6(Zn)	15-25%	acute toxicity specific hazard
Nickel	7440-02-0	5-15%	specific hazard
Iron	7439-89-6	20-40%	



Carbon Black	1333-86-4	0-1%	specific hazard
Potassium Hydroxide	1310-58-3	0-15%	acute toxicity
Sodium Hydroxide	1310-73-2		corrosivity
Lithium Hydroxide	1310-65-2		irritant property

Section 4 – First-aid Measures

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

Eye Contact: 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 Contact: 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.

Section 5 – Fire-fighting Measures

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 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, manganese, lanthanum, cerium, neodymium, and praseodymium.

Section 6 - Accidental Release Measures

To cleanup leaking batteries:

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries.

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

Section 7 - Handling and Storage

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult us for precautionary suggestions. Batteries normally evolve hydrogen which, when combined with oxygen from the air, can produce a combustible or explosive mixture unless vented. If such a mixture is present, short circuits, high temperature, or static sparks can cause an ignition.



Do not obstruct safety release vents on batteries. Encapsulation (potting) of batteries will not allow cell venting and can cause high pressure rupture.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, consult us for proper precautions to prevent seal damage or short circuit.

Do not open battery. The negative electrode material may be pyrophoric. Should an individual cell from a battery become disassembled, spontaneous combustion of the negative electrode is possible. This is much more likely to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

Section 8 - Exposure Controls / Personal Protection

Ventilation Requirements: Not necessary under normal conditions.

Respiratory Protection: Not necessary under normal conditions.

Eye Protection: Not necessary under normal conditions.

Gloves: Not necessary under normal conditions.

Section 9 - Physical and Chemical Properties

Please refer most updated information by searching the product part# at www.batteryspace.com

Boiling Point: N.A.	Specific Gravity (H ₂ O=1): N.A.
Vapor Pressure (mm Hg): N.A.	Melting Point: N.A.
Vapor Density (AIR=1): N.A.	Evaporation Rate (Butyl Acetate): N.A.
Solubility in Water: N.A.	Appearance and Odor: Cylindrical Shape, odorless

Section 10 - Stability and Reactivity

Stability: Stable under normal use

Hazardous reactions occurring under specific conditions:

- By misuse of a battery cell or the like, oxygen or hydrogen accumulates in the cell and the internal pressure rises. These gases may be emitted through the gas release vent. When fire is near, these gases may take fire.
- When a battery cell is heated strongly by the surrounding fire, acrid or harmful fume may be emitted

Conditions to avoid: Direct sunlight, high temperature and high humidity

Materials to avoid: Conductive materials, water, seawater, strong oxidizers and strong acids

Hazardous decomposition products: Acrid or harmful fume is emitted during fire

Section 11 - Toxicological Information

The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Numerical Measures of Toxicity: No toxicity.

Section 12 - Ecological Information

Persistence/degradability: Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

Ecological toxicity: No information available.



Biodegradability: No information available.

Non- biodegradability: No information available.

Section 13 - Disposal Considerations

Dispose of batteries according to local government regulations.

Section 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 (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 (International Air Transport Association)	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.

Section 15 - Regulatory Information

Nimh batteries are not classified as dangerous goods by the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

Section 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.

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