Power*Rite™

WWW.POWERRITE.COM

877-797-7483

MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT IDENTIFICATION

Product Name: NiMH Rechargeable Battery
Chemical Systems: Nickel Metal Hydride
Sizes: All
Designed for Recharge: Yes

SECTION I - MANUFACTURER INFORMATION

Manufactured for Power*Rite
Telephone Number for Information: 877-797-7483

SECTION II - INGREDIENTS

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

MATERIAL OR INGREDIENTS		*% W. t.*	*TLV (ACGIH Threshold Limit Values)*
Aluminum	(CAS# 7429-90-5)	<2	10mg/m^3 TWA
Cobalt as cobalt metal cobalt oxide cobalt hydroxide	 (CAS# 7440-48-4) (CAS# 1307-96-6) (CAS# 21041-93-0)	2-6	0.02mg/m^3 TWA (as Co)
Manganese	(CAS# 7439-96-5)	<3	0.2mg/m^3 TWA (as Mn)
Nickel as nickel powder nickel oxide nickel hydroxide	 (CAS# 7440-02-0) (CAS# 1313-99-1) (CAS# 12054-48-7)	20-50	1.5mg/m^3 TWA (as inhalable Ni) 0.2mg/m^3 TWA (as inhalable Ni, insoluble compounds)
Zinc as zinc metal zinc oxide zinc hydroxide	 (CAS# 7440-66-6) (CAS# 1314-13-2) (CAS# 20427-58-1)	<3	10mg/m^3 TWA (total dust: zinc oxide)

Mischmetal including lanthanum cerium neodymium praseodymium	 (CAS# 7439-91-0) (CAS# 7440-45-1) (CAS# 7440-00-8) (CAS# 7440-10-0)	<13	10mg/m^3 TWA (particulates not otherwise classified-inhalable) 3mg/m^3 TWA (particulates not otherwise classified-respirable)
Lithium Hydroxide	(CAS# 1310-65-2)	0-4	None established
Potassium Hydroxide	(CAS# 1310-58-3)	<7	Ceiling 2mg/m^3 STEL
Sodium Hydroxide	(CAS# 1310-73-2)	0-4	Ceiling 2mg/m^3 STEL
Steel	(CAS# 7439-89-6)	15-25	NA
Water, paper, plastic, other		Balance	NA

SECTION III - PHYSICAL DATA

Boiling Point @ 760 mm Hg (^{o}C)	NA
Vapor Pressure (mm Hg @ 25 ^{o}C)	NA
Vapor Density (Air = 1)	NA
Density (grams/cc)	NA
Percent Volatile by Volume (%)	NA
Evaporation Rate (Butyl Acetate = 1)	NA
Physical State	NA
Solubility in Water (% by Weight)	NA
pH	NA
Appearance and Odor	Geometric solid object

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point	NA
Flammable Limits in Air (%)	NA
Lower (LEL)	NA
Upper (LEL)	NA
Extinguishing Media	Use water, foam or dry powder, as appropriate
Auto-Ignition	NA

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 V - HEALTH HAZARD DATA

Under normal conditions of use, the battery is hermetically sealed. (Note: Nickel, nickel compounds, cobalt, and cobalt compounds are listed as possible carcinogens by IARC or NTP)

Threshold Limit Value (TLV) and Source	NA
Effects of Overexposure	None (In fire or rupture situation, see section II and IV)

EMERGENCY FIRST AID PROCEDURES

Ingestion:
Swallowing a battery can be harmful. Seek medical attention immediately. Call The National Capital Poison Control Center (202-625-3333) collect, or your local Poison Control Center (800-222-1222), day or night, for advice and follow-up.

Inhalation:
Contents of an open battery can cause respiratory irritation. Provide fresh air and seek medical attention.

Skin Contact:
Contents of an open battery can cause skin irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact:
Contents of an open battery can cause severe irritation and/or chemical burns. Immediately flush eyes thoroughly with copious quantities of flowing lukewarm water for a minimum of 15 minutes. Seek immediate medical attention.

SECTION VI - REACTIVITY DATA

Stable or Unstable	Stable
Incompatibility (Materials to Avoid)	NA
Hazardous Decomposition Products	NA
Decomposition Temperature (0 ^{o}F)	NA

Hazardous Polymerization	Will Not Occur
Conditions to Avoid	Avoid Electrical Shorting

SECTION VII - SPILL OR LEAK PROCEDURES

Procedures to Contain and Clean Up Leaks or Spills:
In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

Reporting Procedure:
Report all spills in accordance with Federal, State and Local reporting requirements.

Waste Disposal Method:
Disposal in accordance with Federal, State and Local reporting requirements.

SECTION VIII - PROTECTION INFORMATION

Respiratory Protection (Specify Type)	Not necessary under normal conditions
Ventilation	Not necessary under normal conditions
Protective Gloves	Not necessary under normal conditions
Eye Protection	Not necessary under normal conditions
Other Protective Clothing	Not necessary under normal conditions

SECTION IX - PRECAUTIONS FOR SAFE HANDLING AND USE

Storage:
Store in a cool, dry, and well-ventilated area. Elevated temperature can result in shortened battery life. Storing unpackaged cells together could result in cell shorting and heat build-up.

Mechanical Containment:
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. However, this battery is capable of delivering very high short circuit currents. Prolonged short circuits will cause high cell temperatures that can cause skin burns. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, and metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, use of tabbed batteries is recommended.

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. That is much more like to happen if the electrode is removed from its metal container. There can be a delay between exposure to air and spontaneous combustion.

Charging:
This battery is made to be charged many times. Because it gradually loses its charge over a few months, it is good practice to charge battery before use. Use recommended charger. Improper charging can cause heat damage or even high pressure rupture. Observe proper charging polarity.

Transportation-Shipping:
These are "batteries, dry" and are not considered to be a "hazardous material" per the Department of Transportation (USDOT) regulations or "dangerous goods" per the International Air Transport Association (IATA) regulations or the major international regulatory bodies.

SECTION X – SARA 313

These products are "article(s)" that do not release a covered toxic chemical under the normal conditions of processing or use. They are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act. Notification is not required.