



### SECTION 3 – COMPOSITION

Chemical Name	CAS No.	Percentage %
Nickel Powder	7440-02-0	16 - 35.5%
Cobalt Hydroxide	21041-93-0	0 - 1.9
Cobalt	7440-48-4	0 - 7.6
Nickel Hydroxide	12054-48-7	28.5 – 29.8
Lanthanum	7439-91-0	10.9 - 12.5
Cerium	7440-45-1	1.6 - 11.0
Manganese	7439-96-5	1.4 - 3.0
Potassium Hydroxide	1310-58-3	0.54 - 13
Sodium Hydroxide	1310-73-2	0.5 – 2.2
Lithium Hydroxide	1310-65-2	0 - 0.3
Lithium Hydroxide Monohydrate	1310-66-3	0 - 0.19
Neodymium	7440-00-8	0 - 0.1
Aluminum	7429-90-5	0 - 0.66
Poly	32131-17-2	0 - 0.45
Iron	7439-89-6	0 - 14.6
Copper	7440-50-8	0 - 4.96
Polypropylene	9003-07-0	0 – 1.96
Polyethylene	9002-88-4	0 – 0.22
Water	7732-18-5	5 – 6

### SECTION 4 – FIRST AID MEASURES

Inhalation	If exposed to fumes or dust; get fresh air. If symptoms persist seek medical attention.
Eyes Contact	If exposed to internal battery content, flush with copious quantities of flowing lukewarm water for a minimum of 15 minutes; get immediate medical attention.
Skin Contact	If exposed to internal battery content, flush with copious quantities of flowing lukewarm water for a minimum of 15 minutes; wash with soap and water.
Ingestion	Do not induce vomiting. Ingestion of battery chemicals can be harmful. Seek medical attention immediately. Call The National Battery Ingestion Hotline (202-625-3333) 24 hours a day, for procedures treating ingestion of chemicals.

### SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point – N/A

Auto Ingestion – No Data Available

Extinguisher Media - Any class of extinguishing medium can be used on these batteries or their packing material.

Special Fire-Fighting Procedures - Use positive pressure, self-contained breathing apparatus. If batteries are on charge, shut off power to the charging equipment, but note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

In case of accidental rupture or release: prevent skin and eye contact and collect all released material in a plastic lined metal container. Leaking batteries should be handled with gloves. Wear protective clothing. Use a self-contained breathing apparatus if in the presence of chemical vapor. See also: sections 4, 5, and 8.

## SECTION 7 – HANDLING AND STORAGE

**Handling** – Do not disassemble. Do not short circuit. 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.

**Storage** - Store batteries under roof in cool, dry, well-ventilated areas separated from incompatible materials and from activities that may create flames, spark or heat. Do not store unpacked cells together: avoid cells shorting to one another – especially in a charged state. Do not mix new and used batteries. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit.

**Charging** – Use manufacturer’s recommendations charger. Improper charging can cause damage and even high pressure rupture. Do not install with incorrect polarity.

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ventilation Requirements** – Not necessary under normal conditions.

**Respiratory Protection (NIOSH/MSHA approved)** - None required under normal handling conditions. In case of venting, provide fresh air, ventilation, and use a self-contained breathing apparatus.

**Eye Protection** – Not necessary under normal conditions.

**Skin Protection** – Not necessary under normal conditions. Wear gloves if cell is ruptured, corroded, or leaking materials.

## SECTION 9 – PHYSICAL/CHEMICAL PROPERTIES

<b>Boiling Point</b>	NA	<b>Melting Point</b>	NA
<b>Vapor Pressure</b>	NA	<b>Vapor Density</b>	NA
<b>Specific Gravity (H2O=1)</b>	NA	<b>Solubility in Water</b>	Insoluble
<b>Evaporation Rate</b>	NA	<b>pH</b>	NA
<b>Reactivity in Water</b>	NA	<b>Auto-Ignition Temperature</b>	NA
<b>Lower Explosive Limit (LEL)</b>	NA	<b>Upper Explosive Limit (UEL)</b>	NA
<b>Odor Threshold</b>	NA	<b>Viscosity (poise @ 25° C)</b>	NA
<b>Partition Coefficient</b>	NA	<b>Decomposition Temperature</b>	NA
<b>Flash Point</b>	NA		
<b>Appearance and Odor</b>	Cylindrical or button shape, solid object, odorless.		

## SECTION 10 – STABILITY & REACTIVITY

**Stability** - This product is stable under normal conditions at ambient temperature.

**INCOMPATIBILITY (MATERIALS TO AVOID) – NA**

## **SECTION 11 – TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY** - Under normal conditions of use, nickel metal hydride batteries are non-toxic.

**ROUTES AND METHODS OF ENTRY** - Skin, Eyes, Ingestion (swallowing).

**SIGNS AND SYMPTOMS OF OVEREXPOSURE** – None. (In fire or rupture, refer to sections 4, 5, and 8).

**MEDICAL CONDITIONS GENERALLY CAUSED BY EXPOSURE** - Chemicals may cause burns to skin, eyes, gastrointestinal tract and mucous membranes. Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

## **SECTION 12 – ECOLOGICAL INFORMATION**

**Hazardous Decomposition Products** – NA

**Hazardous Polymerization** - Will not occur.

## **SECTION 13 – DISPOSAL**

**Waste Disposal Method** - Dispose of properly or recycle in accordance with all Federal, State and local laws and regulations.

## **SECTION 14 – TRANSPORT**

These batteries must be packaged in a way that prevents the dangerous evolution of heat and protects the terminals from short circuit. When properly packaged and labeled, these dry batteries fall under special provision of the agencies listed below.

Nickel metal hydride batteries (sometimes referred to 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.

<u>Regulatory Body</u>	<u>Special Provisions</u>
ADR	Not Regulated
IMDG	UN3496 SP 963
UN	Not Regulated
U.S.DOT	49 CFR 172.102 Provision 130
IATA	UN 3496 SP A123 and A199
ICAO	Not Regulated

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

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

None.

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