



Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

Product Name: Nickel Cadmium Battery Rechargeable Battery (NICD Battery)

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

Email: sales@batteryspace.com

Section 2 - Composition/Information on Ingredient

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.
Cadmium as cadmium metal cadmium oxide cadmium hydroxide	8-22
Cobalt as cobalt metal cobalt oxide cobalt hydroxide	1-2
Nickel as nickel metal nickel oxide nickel hydroxide	20-30
Mercury	0-0.0005
Lead as lead metal lead oxide	0-0.004
Potassium Hydroxide	<6
Sodium Hydroxide	<6

SECTION III - FIRE AND EXPLOSION HAZARD DATA

If fire or explosion occurs when batteries are on charge, shut off power to charge.

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing materials. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus. Nickel-Cadmium batteries involved in a fire can vent and produce toxic fumes including nickel, nickel oxide, cadmium, cadmium oxides, and cobalt oxides.

SECTION IV - HEALTH HAZARD DATA

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

Ingestion:

Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of



mouth, esophagus, and gastrointestinal tract.

Inhalation:

Contents of an open battery can cause respiratory irritation. Hypersensitivity to nickel can cause allergic pulmonary asthma. Provide fresh air and seek medical attention.

Skin Contact:

Contents of an open battery can cause skin irritation and/or chemical burns. Nickel, nickel compounds, cobalt, and cobalt compounds can cause skin sensitization and an allergic contact dermatitis. 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 chemical burns. 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.

SECTION V - PRECAUTIONS FOR SAFE HANDLING AND USE

Storage:

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

Mechanical Containment:

Never seal or encapsulate nickel metal hydride batteries.

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 which 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.

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.

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.

SECTION VI - SPECIAL PROTECTION INFORMATION

Ventilation Requirements:



Not necessary under normal conditions.

Respiratory Protection:

Not necessary under normal conditions.

Eye Protection:

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

Gloves:

Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.

Open Battery Storage:

Battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

Keep batteries between -20°C and 35°C for prolong storage.

When the cells are closed to fully charged, the storage temperature should be between -20°C and 30°C and should be controlled at 10-20°C during transportation and packed with efficient air ventilation.

SECTION VII-DISPOSAL METHOD

Dispose of batteries according to government regulations.

SECTION VIII-TRANSPORTATION INFORMATION

Batteries are considered to be "Dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation(DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and International Maritime Dangerous Goods Regulations (IMDG). The only DOT requirement for shipping these batteries is special provision 130 which states: "Batteries, not subject to the requirements of this subchapter only when they are offered for transportation in a manner that prevents the dangerous evolution of heat (For example, by the effective insulation of exposed terminals). As of 1/1/97 IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting.

SECTION IX-REGULATORY INFORMATION

Special requirement be according to the local regulatory.

SECTION X-OTHER INFORMATION



The data in this Material Safety Data Sheet relates only to the specific material designated herein.

SECTION XI-MEASURES FOR FIRE EXTINCTION

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

SECTION XII - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: N.A.	Specific Gravity (H2O=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 XIII – ACCIDENTAL RELEASE OR SPILLAGE

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leakage should be handled with rubber gloves. Avoid direct contact with electrolyte.

Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA)

SECTION XIV – EXPOSURE CONTROLS / PERSON PROTECTION

Occupational Exposure Limits: LTEP : N.A.	STEP : N.A.	
Respiratory Protection (Specify Type): N.A.		
Ventilation	Local Exhausts: N.A.	Special: N.A.
	Mechanical (General): N.A.	Other: N.A.
Protective Gloves: N.A.	Eye Protection: N.A.	
Other Protective Clothing or Equipment: N.A.		
Work / Hygienic Practices: N.A.		

SECTION XV – ECOLOGICAL INFORMATION

N.A.

SECTION XVI – REACTIVITY DATA

Stability	Unstable		Conditions to Avoid
	Stable	X	
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	