
NICD SAFETY DATA SHEET

Product Name: Nickel Cadmium Battery

Chemical Systems: Nickel-Cadmium

Designated for Rechargeable: Yes

SECTION I - HAZARDOUS INGREDIENTS

IMPORTANT NOTE:

The battery should 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 (CAS#7440-43-9) cadmium oxide (CAS#1306-19-0) cadmium hydroxide (CAS#21041-95-2)	8-22
Cobalt as cobalt metal (CAS#7440-48-4) cobalt oxide (CAS#1307-96-) cobalt hydroxide (CAS#21041-93-0)	1-2
Lithium Hydroxide (CAS1310-65-2)	0-1
Nickel as nickel metal (CAS#7440-02-0) nickel oxide (CAS#1313-99-1) nickel hydroxide (CAS#12054-48-7)	20-30
Potassium Hydroxide (CAS#1310-58-3)	0-5

SECTION II - 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 III - 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. Contents include toxic cadmium compounds that can cause excessive salivation, choking, nausea, persistent vomiting, diarrhea, abdominal pain, dizziness, faintness, unconsciousness, and possible liver and kidney injury.

If a battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation:

Contents of an open battery can cause respiratory irritation. Cadmium oxide fumes can cause metal fume fever. 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. Cobalt, cobalt compounds, nickel, and nickel 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 IV - PRECAUTIONS FOR SAFE HANDLING AND USE

Storage:

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

Mechanical Containment:

Do not obstruct safety release vents on batteries. Encapsulation 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 circuits. 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 battery is required, use of tabbed batteries is recommended.

Do not open battery. The negative electrode material maybe 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 charging many times. Because it gradually loses its charger 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 V - 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.

Glove:

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.

SECTION VI - TRANSPORTATION

Sealed NiCD batteries are considered to be "dry cell" batteries and are not subject to dangerous goods regulation for the purpose of transportation by the U.S. Department of Transportation, the International Civil Aviation Administration, the International Air Transport Association or the International Maritime Dangerous Goods regulations. The only DOT requirements for shipping NiCD batteries is Special Provision 130 which states: "Batteries, dry are 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 sample, by the effective insulation of exposed terminals)." IATA requires that batteries being transported by air must be protected from short-circuiting and protect from movement that could lead to short-circuiting