

## SAFETY DATA SHEET

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The Safety Data Sheet is supplied as a service to you. For other related information, please visit:

[www.ampli.com](http://www.ampli.com)

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### 1. IDENTIFICATION

PRODUCT NAME: Nickel Cadmium (NiCad)  
Battery SIZES: All sizes  
EMERGENCY HOTLINE: 800-424-9300 (24 hr, [www.Chemtrec.com](http://www.Chemtrec.com))  
EDITION DATE: 05/12/2015

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### 2. HAZARD IDENTIFICATION

We would like to inform our customers that these batteries are exempt articles and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.

#### Emergency Overview

OSHA Hazards-not applicable  
Target Organs-not applicable  
GHS Classification-not applicable  
GHS Label Elements, including precautionary Statement-not applicable  
Pictogram-not applicable  
Signal words-not applicable  
Hazard statements-not applicable  
Precautionary statements-not applicable

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS #	%	TLV*/**TWA
Nickel and compounds	7440-02-0	23-30	1.0 mg/m <sup>3</sup> (TLV)
Cadmium	7440-49-3	18-25	0.01 mg/m <sup>3</sup> (TLV)
Potassium Hydroxide	1310-58-3	<2	0.02 mg/m <sup>3</sup> (PEL)
Cobalt and compounds	7440-48-4	1-2	0.02 mg/m <sup>3</sup> (TLV)
Water, paper, plastic, other	---	Balance	---

\*Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 11-01-2012

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## 4. FIRST AID INFORMATION

### Inhalation:

If potential for exposure to cadmium or nickel fumes or dusts occurs, remove immediately to fresh air and seek medical attention.

### Skin:

If the internal cell materials of an opened battery cell come into contact with the skin, immediately flush with water. Wash skin with soap and water. Exposure to the electrolyte contained inside the battery may result in chemical burns.

### Eyes:

If the contents from an opened battery come into contact with the eyes, immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention.

### Swallowing:

Do not induce vomiting. Seek medical attention immediately.

*If you or your doctor suspects that a battery has been ingested-for assistance in the US call the NATIONAL BATTERY INGESTION HOTLINE any time at (202) 625-3333: in Canada call 416-813-5900.*

For more information, please visit:

<http://www.nema.org/Policy/Environmental-Stewardship/Documents/batteryingest.pdf>

**Neutralizing Agent:** Acetic Acid

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## 5. FIRE FIGHTING MEASURES

FLASH POINT:	NA
LOWER (LEL):	NA
FLAMMABLE LIMITS IN AIR (%):	NA
UPPER (UEL):	NA
EXTINGUISHING MEDIA:	Any class of extinguishing medium may be used
AUTO-IGNITION:	NA

### SPECIAL FIRE FIGHTING PROCEDURES:

If incinerated, wear NIOSH/MSHA approved SCBA and full protective equipment (FP N). Exposure to temperature of above 212°F can cause evaporation of the liquid content of the potassium hydroxide electrolyte resulting in the rupture of the cell. Potential for exposure to cadmium fumes during fire.

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## 6. ACCIDENTAL RELEASE MEASURES

### TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:

Spill and leaks are unlikely because cells are contained in a hermetically-sealed case. If the battery case is breached, don protective clothing that is impervious to caustic materials and absorb or pack spill residues in inert material. Dispose of as a hazardous waste in accordance with applicable state and federal regulations. Resultant spill residues may be characterized as D002 (caustic) and D006 (cadmium) pursuant to the federal Resource Conservation and Recovery Act (RCRA). See Section 5 for response to fires or explosions

### REPORTING PROCEDURE:

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

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## 7. HANDLING AND STORAGE

Store batteries in a dry place. Storing unpackaged cells together could result in cell shorting and heat build-up. Do not recharge. Do not puncture or abuse.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): Not required under normal use  
 VENTILATION: Not required under normal use  
 PROTECTIVE GLOVES: Not required under normal use  
 EYE PROTECTION: Not required under normal use  
 OTHER PROTECTIVE CLOTHING: Not required under normal use

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Cadmium		Cadmium Hydroxide		Nickel Hydroxide		Nickel Powder		Potassium Hydroxide	
Boiling Point (F°):	1,407	Boiling Point(F°):	NA	Boiling Point(F°):	★	Boiling Point(F°):	2,831	Boiling Point(F°):	1,407
Vapor Pressure (mm Hg @ 25°C):	NA	Vapor Pressure (mm Hg @ 25°C):	NA	Vapor Pressure (mm Hg @ 25°C):	NA	Vapor Pressure (mm Hg @ 25°C):	NA	Vapor Pressure (mm Hg @ 25°C):	NA
Vapor Density (Air = 1):	NA	Vapor Density (Air = 1):	NA	Vapor Density (Air = 1):	NA	Vapor Density (Air = 1):	NA	Vapor Density (Air = 1):	NA
Density (grams/cc):	NA	Density (grams/cc):	NA	Density (grams/cc):	NA	Density (grams/cc):	NA	Density (grams/cc):	NA
pH:	8.65	pH:	4.79	pH:	4.79	pH:	8.90	pH:	8.65
Percent Volatile by Volume (%):	NA	Percent Volatile by Volume (%):	NA	Percent Volatile by Volume (%):	NA	Percent Volatile by Volume (%):	NA	Percent Volatile by Volume (%):	NA
Evaporation Rate (Butyl Acetate = 1):	NA	Evaporation Rate (Butyl Acetate = 1):	NA	Evaporation Rate (Butyl Acetate = 1):	NA	Evaporation Rate (Butyl Acetate = 1):	NA	Evaporation Rate (Butyl Acetate = 1):	NA
Physical State:	NA	Physical State:	NA	Physical State:	NA	Physical State:	NA	Physical State:	NA
Solubility in Water:	Insoluble	Solubility in Water:	Practically insoluble	Solubility in Water:	insoluble	Solubility in Water:	Insoluble	Solubility in Water:	Soluble in 0.9
Appearance and Odor:	Power	Appearance and Odor:	Power	Appearance and Odor:	Apple Green Power	Appearance and Odor:	Power	Appearance and Odor:	White or slightly yellow

\* Note: decomposes above 392°F into NiO and H<sub>2</sub>O. Source: OSHA 29 CFR 1910.1000 Table Z-1, 2 or 3 11-01-2012

## 10. STABILITY AND REACTIVITY

STABLE OR UNSTABLE: Stable  
 INCOMPATIBILITY (MATERIALS TO AVOID): NA  
 HAZARDOUS DECOMPOSITION PRODUCTS: Toxic Materials  
 DECOMPOSITION TEMPERATURE (0°F): NA  
 HAZARDOUS POLYMERIZATION: Will Not Occur  
 CONDITIONS TO AVOID: Avoid electrical shorting, puncturing or deforming

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## 11. ECOLOGICAL INFORMATION

Under normal use these batteries do not release their ingredients into the environment. Damaged or abused batteries can release extremely small amounts of nickel or cobalt to the environment. Damaged batteries carelessly discarded could release small amounts of nickel or cobalt to storm or surface water. Do not place in fire. Consumers should dispose of discharged batteries through waste disposal services or legitimate collection outlets. Those collecting batteries should follow state and federal regulations.

Partially discharged damaged batteries can overheat and cause fires in the presence of other combustible materials.

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## 12. DISPOSAL CONSIDERATIONS

**DO NOT INCINERATE** or subject battery cells to temperatures in excess of 212°F. Such treatment can vaporize the liquid electrolyte causing cell rupture. Incineration may result in cadmium emissions. Always comply with Federal, state or local requirements. For additional information on disposal/reclaim options, visit: <http://www.nema.org/Policy/Environmental-Stewardship/Documents/Companies%20Claiming%20to%20Recycle.MARCH2005.pdf>

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## 13. TRANSPORTATION INFORMATION

TRANSPORTATION-SHIPPING: Nickel Cadmium 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 (DOT), the International Civil Aviation Administration (ICAO), the International Air Transport Association (IATA) or the International Maritime Dangerous Goods regulations (IMDG). The only DOT requirement for shipping Nickel Cadmium 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 example, by the effective insulation of exposed terminals)." IATA requires that batteries being transported by air must be protected from short-circuiting and protected from movement that could lead to short-circuiting. Nickel Cadmium batteries are classified as a D006 hazardous waste because of the presence of cadmium. This waste code is assigned because of toxicity, not corrosiveness. These batteries do not meet the definition of a corrosive waste.

**USDOT** – See Special Provision 130

**IMO/Ocean** – UN3496, Special Provision 963

**ICAO/IATA** – See Special Provisions A123 and A199. A123 also states to put the words "not restricted" and "special provision A123" on the air waybill when an air waybill is issued.

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## 14. REGULATORY INFORMATION

**SARA 313:** Notification is not required because these products are article(s) that do not release a covered toxic chemical under the normal conditions of storage, use, or handling.

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