



Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard 29 CFR 1910.1200.
This standard must be consulted for specific requirements.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nickel Cadmium Battery Packs
Product Numbers: 58-97-0000

Drawing Number: 58-97-1185
Issue Date: November 2011
Supersedes Date: May 2004

Milwaukee Electric Tool Corporation
13135 West Lisbon Road
Brookfield, Wisconsin USA 53005-2550
www.milwaukeetool.com

Company Phone Number: 1-262-781-3600 or
1-800-729-3878
Emergency Contact Number: 1-800-424-9300
(United States Only) (Chemtrec)
For International: 1-703-527-3887

Product Name: Nickel Cadmium batteries

HMIS® Rating Numbers	Health	Flammability	Reactivity	Personal Protection
	N/A	N/A	N/A	N/A
Hazard Ratings:	0 = Minimum hazard A = Goggles	1 = Slight hazard B = Goggles + Gloves	2 = Moderate hazard C = Face Shield, Gloves + Apron	3 = Serious hazard X = Special, See sections VII & VIII of this sheet

SECTION 2: HAZARDS INGREDIETS/IDENTIFICATION

EMERGENCY OVERVIEW

- Appearance/Odor:** Solid article, odorless
- WARNING:** No exposure during routine handling of product.
- Flammable:** Organic components will burn if cell is incinerated.
- Potential Health Effects:** The electrolyte may cause skin or eye irritation. Flush immediately with water.
- Routes of Exposure:** Eye contact, skin contact, skin absorption, inhalation

Hazardous Components [Specific Chemical Identity, Common name (s)]

Ingredient	% by Weight	OSHA Reg. Y/N	CAS #	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Cadmium	0-26	Y	7440-43-9	.005 TWA	.05 TWA		Y
Cadmium hydroxide	3-26	Y	21041-95-2	.005 TWA	.05 TWA		Y
Nickel (powder)	8-17	N/A	7440-02-0	1 TWA	1 TWA		N/A
Nickel hydroxide	0-12	N/A	12054-48-7	1 TWA	1 TWA		N/A
Potassium or sodium hydroxide	0-4	N/A	1310-58-3	2 Ceiling	2 Ceiling		N/A
Lithium hydroxide	0.4≥	N/A	N/A	N/A	N/A		N/A
Nickel oxide hydroxide	1.12	N/A	N/A	N/A	N/A		N/A
Non-Hazardous Materials	Balance						

SECTION 3: COMPOSITION / INFORMATION OF INGREDIENTS

Boiling Point >392°F	Specific Gravity (H ₂ O=1) >2.6
Vapor Pressure (mm/Hg.) N/A	Melting Point N/A
Vapor Density (Air=1) N/A	Evaporation Rate N/A
Solubility in Water Slightly soluble (electrolyte)	
Appearance and Odor Solid sealed in a case	

SECTION 4: FIRST AID MEASURES

No exposure during routine handling of product. Risk of exposure occurs only if the battery is mechanically or electrically abused.

Eye Contact: Immediately flush with water for at least 15 minutes.
Skin Contact: Immediately flush with water for at least 15 minutes. Wash with soap and water
Inhalation: N/A
Ingestion: Ingestion is not likely, given the physical size and state of the cell.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Water spray, carbon dioxide, dry chemical powder or appropriate foam. Use agent appropriate for surrounding materials.

Unsuitable Extinguishing Media:

None.

Products of Combustion:

Organic components will burn if incinerated. In case of fire in an adjacent area, use water, CO₂, or dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products.

Protection of Firefighters:

Exposure to temperatures above 212°F can cause evaporation of the liquid content of the potassium hydroxide electrolyte resulting in rupture of the cell. Potential for exposure to cadmium fumes during fire; use self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Use standard industrial clothing in normal use. If handling large containers of cells wear steel-toed footwear.

Environmental Precautions:

No special precautions necessary.

Methods for Containment:

Transport container outdoors. Hold burned cells and fire cleanup solids for disposal as potential hazardous waste. Unburned cells are not hazardous waste. Always consult and obey all international, federal and local environmental laws.

Methods for Clean-Up:**Other Information:**

SECTION 7: HANDLING AND STORAGE

Handling:

Use only approved charging equipment. Do not disassemble battery or battery pack. Do not puncture, crush or dispose of in fire.

Storage:

Store in a cool, dry place away from sparks and flame. Optimum storage temperature is between -31°F and 95°F.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:	Not necessary under conditions of normal use
Engineering Controls:	Not necessary under conditions of normal use
Eye/Face Protection:	Not necessary under conditions of normal use
Skin Protection:	Not necessary under conditions of normal use
Respiratory Protection:	Not necessary under conditions of normal use
General Hygiene Considerations:	Not necessary under conditions of normal use

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color:	N/A
Odor:	None
Odor Threshold:	None
Physical State:	Solid
pH:	N/A
Freezing Point:	N/A
Boiling Point:	N/A
Flash Point:	N/A
Evaporation Rate:	N/A
Flammability (solid,gas)	Organic components will burn if cell is incinerated.
Upper Flammability Limit:	N/A

Lower Flammability Limit:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Specific Gravity:	N/A
Solubility (water):	N/A
Partition Coefficient (n-octanol/water):	N/A
Auto-ignition Temperature:	N/A
Percent Volatile, wt. %:	N/A
Volatile Organic Compound (VOC) content, wt. %:	N/A

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Do not crush, puncture, incinerate, immerse in water or heat over 212°F (100°C). Steel casing slowly dissolves in strong mineral acids.
Incompatible Materials:	Acids, aldehydes, and carbonate compounds.
Hazardous Decomposition:	Oxides of Nickel and Cadmium
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur. Spontaneous decomposition will not occur at normal temperature.

SECTION 11: TOXICOLOGY INFORMATION

ACUTE EFFECTS:

Oral LD ₅₀ :	None in routine handling of product.
Dermal LD ₅₀ :	None in routine handling of product.
Inhalation:	None in routine handling of product.
Eye Irritation:	None in routine handling of product.
Skin Irritation:	None in routine handling of product.
Sensitization:	None in routine handling of product.

CHRONIC EFFECT

Carcinogenicity:	None in routine handling of product.
Mutagenicity:	None in routine handling of product.
Reproductive Effects:	None in routine handling of product.
Developmental Effects:	None in routine handling of product.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:	None in routine handling of product.
Persistence/Degradability:	None in routine handling of product.
Bioaccumulation/Accumulation:	None in routine handling of product.

Mobility in Environment: None in routine handling of product.

SECTION 13: DISPOSAL CONSIDERATIONS:

Disposal:

Dispose in accordance with appropriate regulations. Always consult and obey all international, federal, provincial/state and local hazardous waste disposal laws. Some jurisdictions require recycling of this spent product. Battery recycling is encouraged.

This product does not contain mercury or Lithium (metal).

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212°F (100°C).

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT HMR (re: ground transport)

Not otherwise DOT regulated.

SECTION 15: REGULATORY INFORMATION

SARA 313 Information:

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

WHMIS: Canadian Workplace

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements

SECTION 16: OTHER INFORMATION

NFPA 704: National Fire Protection Association

Health – N/A Fire – N/A Reactivity - N/A

0 = Minimal hazard, 1 = slight hazardous, 2 = moderate hazard, 3 = severe hazard

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. **MILWAUKEE ELECTRIC TOOL CORPORATION** makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto.