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**MEXCEL**

## **MATERIAL SAFETY DATA SHEET**

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### **1. Product Identification**

Product name: Nickel Cadmium Battery (rechargeable Battery)  
Model: Cylindrical Type Cells Nominal Voltage: 1.2V  
Chemical System: Nickel / Cadmium Designed for Recharge  
 X  Yes   No

### **2. Composition/Information on Ingredients**

A sealed Nickel-Cadmium cell is not hazardous in normal use.

Hazardous Components contained into the cell.:

Name	CAS Number	Symbol	Identification of danger
Cadmium Hydroxide	21041-95-2	Cd(OH) <sub>2</sub>	Harmful
Nickel Hydroxide	12054-48-7	Ni(OH) <sub>2</sub>	Harmful
Cobalt Hydroxide	21041-93-0	Co(OH) <sub>2</sub>	Harmful
Alcalines Hydroxide	1310-58-3	KOH NaOH LiOH	Corrosive

### **3. Health Hazard Data**

Effects of Overexposure

Eye effect: Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

Skin Effect: Contact with electrolyte inside battery may cause serious chemical burns. Contact with nickel may cause dermatitis in some sensitive individuals.

Ingestion: Ingestion of electrolyte may cause chemical burns to throat area and gastro/respiratory tract. Ingestion of Cadmium compound may cause dry throat, cough and prostration.

Inhalation: Battery exposed to extreme heat or pressures causes a breach in the cell case,

exposure to the constituents may occur. Inhalation of cobalt dusts may result in pulmonary conditions.

#### **4. First Aid Measures**

In case of electrolyte solution spill precautions must be taken to avoid any contact of human tissues. If it accidentally happens following must be done:

Eye Contact: Flush with plenty of water during at least 15-30 minutes. Get immediate hospital treatment. Consult eye specialist.

Skin Contact: Remove contaminated clothing and flush effected areas with plenty of water. Medical treatment.

Ingestion: If the injured is fully conscious: plenty of drink, preferably milk. Do not induce vomiting. Immediate hospital treatment.

Inhalation: Remove to fresh air. Rinse mouth and nose with water. Medical treatment.

#### **5. Fire and Explosion Hazard Data**

Extinguishing Media:

Carbon Dioxide, Dry Chemical or Foam extinguishers

Special Fire Fighting Procedures:

Use self-contained breathing apparatus and full fire-fighting protective clothing.

Unusual Fire and Explosion Hazards:

Do not dispose of battery in fire---may explode.

Do not short-circuit battery----may cause burns.

Do not break open cell---may cause leakage of electrolyte.

#### **6. Spill Management Procedure**

Spill and leaks are unlikely because cells are contained in an hermetically-sealed case. If the battery case is breached, wear protective clothing that is impervious to caustic materials and absorb or pack spill residues in inert material. Dispose in accordance with applicable state and local regulations.

#### **7. Handling and Storage**

In normal use conditions, no safety rule is specified to handle the cells.

It is recommended to store following WINTONIC batteries specification in order to ensure longer usage: +5 to +25 °C in a 65+-5% relative humidity.

## **8. Exposure Controls/Personal Protection**

Under normal condition of use and handling no special protection is required for sealed Ni-Cd cells.

## **9. Physical Properties**

### Appearance

Nickel plated steel cylindrical cell, eventually sleeved. Dimensions and color according specification.

### Temperature Range

Risk of electrolyte leakage over 100°C

### Mechanical Resistance

According mechanical tests in IEC 61951-1 Standard.

## **10. Stability and Reactivity**

The batteries are stable under normal operating conditions.

Hazardous polymerization will not occur.

Conditions to avoid: heat, open flames, sparks, and moisture

## **11. Toxicological Information**

N/A

## **12. Ecological Information**

The storage battery is TCLP toxic.

## **13. Disposal Method**

Disposed of batteries in accordance with all state and local regulations.

## **14. Transportation Information**

All of cells being transported by air, by sea, or by truck shall be protected from short circuit

and protected from movement that could result in short circuit.

## **15. Regulatory Information**

Special requirement be according to the local regulations.

## **16. Other Information**

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

### 1. Weight percentage % of each component

Ni(OH) <sub>2</sub>		CdO	
component	content	Component	content
Ni	>57.5%	Cd	>87%
Zn	3±0.3%	Ni	>3%
Co	1±0.3%	Fe	<0.01%
Fe	<0.01%	Zn	<0.01%
Cr	<0.01%	Cu	<0.01%
Pb	<0.001%		
Na	<0.05%		
S	<0.15%		

### 2. Physical State

Liquid and Solid

### 3. Additional physical state information (PDFE)

Gel

### 4. Appearance Description

The colour is silver without heat shrink tube (pvc)

### 5. ODOR description

Inodorous

### 6. PH Value

13

### 7. Water Solubility

Immiscible in water