

## MATERIAL SAFETY DATA SHEET

**NAME:** DURACELL RECHARGEABLE ACCU NICKEL METAL HYDRIDE ROUND CELLS  
**CAS NO:** Not applicable **Effective Date:** 1/11/02 **Rev:** na

### A. — IDENTIFICATION

Nickel Hydroxide (12054-48-7) Potassium Hydroxide (1310-58-3) Mercury (7439-97-6)	%	Formula: Mixture Mixture
	15-25	Molecular Weight: NA
	7-10 <5 ppm	Synonyms: DC1300 (D); DC1400(C); DC1500(AA); DC2400 (AAA); DC1604 (9V) (Formerly known as DynaCharge)

### B. — PHYSICAL DATA

Boiling Point NA °F NA °C	Melting Point NA °F NA °C	Freezing Point NA °F NA °C
Specific Gravity (H <sub>2</sub> O=1) NA	Vapor Density (air=1) NA	Vapor Pressure @ _____ °F NA mm Hg
Evaporation ( _____ Ether =1) NA	Saturation in Air (by volume @ _____ °F) NA	Autoignition Temperature _____ °F _____ °C NA
% Volatiles NA	Solubility in Water NA	pH NA

Appearance/Color Various size batteries. Contents dark in color.

Flash Point  
Test Method(s) NA

Flammable Limits in Air  
(% by volume) Lower NA % Upper NA %

### C. — REACTIVITY

Stability	<input checked="" type="checkbox"/> stable	<input type="checkbox"/> Unstable	Polymerization	<input type="checkbox"/> May occur	<input checked="" type="checkbox"/> will not occur
<u>Conditions to Avoid</u> Do not heat, crush, disassemble or short circuit.			<u>Conditions to Avoid</u> Not applicable		
<u>Incompatible Materials</u> Contents incompatible with strong oxidizing agents.			<u>Hazardous Decomposition Products</u> Thermal degradation may produce hazardous mercury fumes; hydrogen gas; caustic vapors of potassium hydroxide and other toxic by-products.		

**\* IF MULTIPLE INGREDIENTS, INCLUDE CAS NUMBERS FOR EACH NA=NOT AVAILABLE**

Footnotes

NA

**D. — HEALTH HAZARD DATA**

Occupational Exposure Limits PEL's, TLV's, etc.)

8-Hour TWAs: Nickel (insoluble as Ni) - 1.0 mg/m<sup>3</sup> (OSHA); 0.2 mg/m<sup>3</sup> (ACGIH); 0.05 mg/m<sup>3</sup> (Gillette)  
 Nickel (elemental) - 1.5 mg/m<sup>3</sup> (ACGIH); 1.0 mg/m<sup>3</sup> (OSHA)  
 Nickel (soluble compounds, as Ni) - 0.1 mg/m<sup>3</sup> (ACGIH/OSHA)  
 Potassium Hydroxide - 2.0 mg/m<sup>3</sup> (Ceiling) (ACGIH)  
 Mercury; Mercuric Oxide (as Hg) - 0.1 mg/m<sup>3</sup> (Ceiling) (OSHA); 0.025 mg/m<sup>3</sup> (ACGIH)

These levels are not anticipated under normal consumer use conditions.

Warning Signals

Not applicable

Routes/Effects of Exposure

These chemicals and metals are contained in a sealed can. For consumer use, adequate hazard warnings are included on both the package and on the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Contains concentrated (~35%) potassium hydroxide, which is caustic. Anticipated potential leakage of potassium hydroxide is 2-20 mls.

1. Inhalation Not anticipated. Respiratory (and eye) irritation may occur if fumes are released due to heat or on abundance of leaking batteries.
2. Ingestion Irritation, including caustic burns to the internal/external mouth areas, may occur.
3. Skin
  - a. Contact  
Irritation, including caustic burns/injury, may occur.
  - b. Absorption  
Not anticipated.
4. Eye Contact Irritation, including caustic burns/injury, may occur.
5. Other Not applicable

**E. — ENVIRONMENTAL IMPACT**

1. Applicable Regulations All ingredients listed in TSCA inventory.
2. DOT Hazard Class - Not applicable
3. DOT Shipping Name - Not applicable  
Please note: These batteries are not regulated under U. S. DOT or international agencies as hazardous materials or dangerous goods when shipped.

Environmental Effects

These batteries pass the U. S. EPA's Toxicity Characteristic Leaching Procedure and therefore, may be disposed of with normal waste.

**F. — EXPOSURE CONTROL METHODS**

## Engineering Controls

General ventilation under normal use conditions.

## Eye Protection

None under normal use conditions. Wear safety glasses when handling leaking batteries.

## Skin Protection

None under normal use conditions. Use neoprene, rubber or latex-nitrile gloves when handling leaking batteries.

## Respiratory Protection

None under normal use conditions.

## Other

Keep batteries away from small children.

**G. — WORK PRACTICES**

## Handling and Storage

Store at room temperature. Avoid mechanical or electrical abuse. **DO NOT** short or install incorrectly. Batteries may explode, pyrolize or vent if disassembled, crushed or exposed to high temperatures. Install batteries in accordance with equipment instructions. Replace all batteries in equipment at the same time. Do not carry batteries loose in pocket or bag.

## Normal Clean Up

Not applicable

## Waste Disposal Methods

Discharged batteries may be disposed of with normal household trash.

**H. — EMERGENCY PROCEDURES**

Steps to be taken if material is released to the environment or spilled in the work area

Notify safety personnel of large spills. Irritating vapors may be released from leaking or ruptured batteries. Avoid eye or skin contact and inhalation of vapors. Increase ventilation. Clean-up personnel should wear appropriate protective gear.

**Fire and Explosion Hazard**

Batteries may burst and release hazardous decomposition products when exposed to a fire situation. See Sec. C.

**Extinguishing Media**

Water, carbon dioxide, sand, Class "D" extinguisher.

**Firefighting Procedures**

Use self-contained breathing apparatus and full protective gear. Fight fire from a distance or from a protected area. Cool and use caution when handling fire exposed batteries (batteries may explode in heat of fire).

**I. — FIRST AID AND MEDICAL EMERGENCY PROCEDURES****Eyes**

Not anticipated. If battery is leaking and material contacts eyes, flush with copious amounts of clear, tepid water for 30 minutes. Contact physician at once.

**Skin**

Not anticipated. If battery is leaking, irrigate exposed skin with copious amounts of clear, tepid water for at least 15 minutes. If irritation, injury or pain persists, consult a physician.

**Inhalation**

Not anticipated. If battery is leaking, contents may be irritating to respiratory passages. Remove to fresh air. Contact physician if irritation persists.

**Ingestion**

Not anticipated. Rinse the mouth and surrounding area with clear, tepid water for at least 15 minutes. Consult a physician immediately for treatment and to rule out involvement of the esophagus and other tissues.

**Notes to Physician**

- 1) The acutely toxic ingredients are concentrated (35%) potassium hydroxide and nickel.
- 2) Chronic exposure to nickel has been reported to be carcinogenic and disposal processes resulting in nickel exposure may be hazardous.
- 3) Anticipated potential leakage of potassium hydroxide is 2-20 mls.
- 4) If the cell is abusively opened the electrodes may react with air and ignite.

**Additional Information**

Health & Safety Information covers cells marketed by Duracell also as DynaCharge batteries.

The information contained in the Material Safety Data Sheet is based on data considered to be accurate, however, no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.