



## Safety Data Sheet

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product Name:** DURACELL NICKEL METAL HYDRIDE RECHARGEABLE BATTERIES

**Product Identification:** Nickel Metal Hydride (NiMH) Cells -

**Duracell Designations:**

Battery Name/Size	Duracell Designation	IEC Designation
Duracell DC1300 D	DC1300	HR20
Duracell DC1400 C	DC1400	HR14
Duracell DC1500 AA	DC1500	HR6
Duracell DC2400 AAA	DC2400	HR9V
Duracell DC1604 9V	DC1604	HR03

**Product Use:** Energy Source

**SDS Date of Preparation:** July 1, 2008

**Company Identification**

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(United States of America)

### SECTION 2: HAZARDS IDENTIFICATION

**Physical Appearance:** Cylindrical batteries

CAUTION: Never mix NiMH batteries with NiCd or any other type of battery. Keep batteries away from fire or explosion may occur. For proper insertion, please observe pole indications (+/-). Never use different battery types or systems at the same time. Do not carry batteries loose in your pocket or purse. If the cell is abusively opened the electrodes may react with air and ignite.

EU Classification of Preparation: Not classified as a dangerous preparation.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Amount	Classification
Nickel	7440-02-0	231-111-4	55-70 %	Carc Cat 3, Xi, R40, R43
Cobalt	7440-48-4	231-158-0	5-10 %	Xn, R42/43, R53
Potassium Hydroxide (35%)	1310-58-3	215-181-3	1-5 %	C, Xn, R22,

				R35
Aluminum	7429-90-5	231-072-3	1-5 %	F, R10, R15
Sodium Hydroxide	1310-73-2	215-185-5	1-5 %	C, R35
Manganese	7439-96-5	231-105-1	1-5 %	None

#### SECTION 4: FIRST AID MEASURES

**General Advice:** The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium and sodium hydroxides, which are caustic. Anticipated potential leakage of potassium and sodium hydroxides is 1-2 grams.

**Eye Contact:** If battery is leaking and material contacts the eye, flush thoroughly with copious amounts of running water for 30 minutes. Seek immediate medical advice.

**Skin Contact:** If battery is leaking and material contacts the skin, remove any contaminated clothing and flush exposed skin with copious amounts of running water for at least 15 minutes. If irritation, injury or pain persists, seek medical advice.

**Inhaled:** If battery is leaking, contents may be irritating to respiratory passages. Move to fresh air. If irritation persists, seek medical advice.

**Swallowed:** If battery contents are swallowed, do not induce vomiting. If the victim is alert, have them rinse their mouth and the surrounding skin with water for at least 15 minutes. Seek immediate medical attention.

**Note to Physician:** The acutely toxic ingredients are concentrated (35%) potassium and sodium hydroxides and nickel. Anticipated potential leakage of potassium and sodium hydroxides is 1-2 grams.

#### SECTION 5: FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** Batteries may burst and release hazardous decomposition products when exposed to a fire situation. If the cell is abusively opened the electrodes may react with air and ignite.

**Extinguishing Media:** Use water, carbon dioxide, sand or class D extinguisher.

**Special Fire Fighting Procedures:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from a distance or protected area. Cool fire exposed batteries to prevent rupture. Use caution when handling fire-exposed containers (containers may explode in heat of fire).

**Hazardous Combustion Products:** Thermal degradation may produce hazardous metal fumes of nickel, cobalt, aluminum and manganese; hydrogen gas, caustic vapors of potassium and sodium hydroxide and other toxic by-products.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large spills. Caustic vapors may be released from leaking or ruptured batteries. Clean-up personnel should wear appropriate protective clothing to avoid eye and skin contact and

inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in an appropriate container for disposal.

### SECTION 7: HANDLING AND STORAGE

Avoid mechanical or electrical abuse. DO NOT short circuit or install incorrectly. Batteries may explode, pyrolyze 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 a pocket or bag.

**Storage:** Store batteries in a dry place at normal room temperature. Do not refrigerate – this will not make them last longer.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

The following occupational exposure limits are provided for informational purposes. No exposure to the battery components should occur during normal consumer use. **Refer to specific country regulations for additional exposure limit information.**

Chemical Name	Exposure Limits
Nickel (elemental)	0,5 mg/m <sup>3</sup> TWA UK WEL 1 mg/m <sup>3</sup> VL Belgium 0,05 mg/m <sup>3</sup> TWA Denmark LV
Nickel (soluble compounds)	0,1 mg/m <sup>3</sup> TWA UK WEL 0,1 mg/m <sup>3</sup> VL Belgium 0,01 mg/m <sup>3</sup> TWA Denmark LV
Nickel (insoluble compounds)	0,5 mg/m <sup>3</sup> TWA UK WEL 1 mg/m <sup>3</sup> VL Belgium 0,05 mg/m <sup>3</sup> TWA Denmark LV
Cobalt	0,1 mg/m <sup>3</sup> TWA UK WEL 0,02 mg/m <sup>3</sup> VL Belgium 0,01 mg/m <sup>3</sup> TWA Denmark LV
Potassium Hydroxide	2 mg/m <sup>3</sup> STEL UK WEL 2 mg/m <sup>3</sup> VCD Belgium 2 mg/m <sup>3</sup> Ceiling Denmark LV
Aluminum (as dust)	10 mg/m <sup>3</sup> TWA (inhalable dust), 4 mg/m <sup>3</sup> TWA (respirable dust) UK WEL 4 mg/m <sup>3</sup> TWA (inhalable dust), 1.5 mg/m <sup>3</sup> TWA (respirable dust) DFG MAK 10 mg/m <sup>3</sup> VL Belgium 10 mg/m <sup>3</sup> TWA Denmark LV
Sodium Hydroxide	2 mg/m <sup>3</sup> STEL UK WEL 2 mg/m <sup>3</sup> VL Belgium 2 mg/m <sup>3</sup> Ceiling Denmark LV
Manganese	0,5 mg/m <sup>3</sup> TWA UK WEL 0,5 mg/m <sup>3</sup> (inhalable) TWA DFG MAK 0,2 mg/m <sup>3</sup> VL Belgium 0,2 mg/m <sup>3</sup> TWA Denmark LV

**Ventilation:** No special ventilation is needed for normal use.

**Respiratory Protection:** None required for normal use.

**Skin Protection:** None required for normal use. Use neoprene, rubber or latex gloves when handling leaking batteries.

**Eye Protection:** None required for normal use. Wear safety goggles when handling leaking batteries.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor:** Cylindrical batteries

**Water Solubility:** Insoluble

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** This product is stable.

**Incompatibility/Conditions to Avoid:** Contents are incompatible with strong oxidizing agents. Do not heat, crush, disassemble, or short circuit.

**Hazardous Decomposition Products:** Thermal decomposition may produce hazardous fumes of nickel, cobalt, aluminum and manganese; caustic vapors of potassium and sodium hydroxide and other toxic by-products.

**Hazardous Polymerization:** Will not occur

## SECTION 11: TOXICOLOGICAL INFORMATION

### Potential Health Effects:

The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium and sodium hydroxides, which are caustic. Anticipated potential leakage of potassium and sodium hydroxides is 1-2 grams.

**Eye Contact:** Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

**Skin Contact:** Contact with battery contents may cause severe irritation and burns.

**Inhalation:** Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

**Ingestion:** Swallowing is not anticipated due to battery size. Ingestion of battery contents (from a leaking battery) may cause mouth, throat and intestinal burns and damage.

### Acute Toxicity Data:

Nickel: LDLo oral rat 5000 mg/kg

Cobalt: LD50 oral rat 6171 mg/kg

Potassium Hydroxide: LD50 oral rat 273 mg/kg

Sodium Hydroxide: LDLo oral rabbit 500 mg/kg  
Manganese: LD50 oral rat 9000 mg/kg

**Chronic Effects:** The chemicals in this product are contained in a sealed can and exposure does not occur during normal handling and use. Chronic exposure to nickel and cobalt may cause respiratory and skin sensitization. Disposal process that result in nickel or cobalt exposure may be hazardous.

**Target Organs:** Skin, eyes and respiratory system.

**Carcinogenicity:** Nickel is classified as a Category 3 carcinogen. None of the other components of this product are listed as carcinogens by the EU Directive on the classification and labeling of substances.

## SECTION 12: ECOLOGICAL INFORMATION

No ecotoxicity data is available. This product is not expected to present an environmental hazard.

## SECTION 13: DISPOSAL INFORMATION

Disposal should be in accordance with national and local regulations. Do not incinerate for disposal except for in a controlled incinerator.

Duracell nickel metal hydride rechargeable batteries are labeled in compliance with the EU Battery Directive 2006/66.

## SECTION 14: TRANSPORT INFORMATION

**Transportation Information** – Products covered by this SDS, in their original form, are considered “dry cell” batteries and are not regulated as “DANGEROUS GOODS” for transportation.

For finished packaged product transported by ground (ADR/RID): – not regulated

For finished packaged product transported by sea (IMDG) – not regulated

For finished packaged product transported by air (IATA): – not regulated

## SECTION 15: REGULATORY INFORMATION

**EU Classification of Preparation:** Not classified as a dangerous preparation.

**REACH:** These products are manufactured articles and not subject to REACH registration requirements.

**EU Labeling:** None Required

Labeling is not required because batteries are classified as articles under the both REACH and the Dangerous Preparations Directive and as such are exempt from the requirement for labeling.

## SECTION 16: OTHER INFORMATION

**P&G Hazard Rating:** Health: 0      Fire: 0      Reactivity: 0

EU Classes and Risk Phrases for Reference (See Sections 2 and 3)

C Corrosive

Carc Cat 3 Carcinogenic Category 3

F Flammable  
Xn Harmful  
R10 Flammable  
R15 Contact with water liberates extremely flammable gases.  
R22 Harmful if swallowed.  
R35 Causes severe burns  
R40 Limited evidence of carcinogenic effect.  
R42/43 May cause sensitization by inhalation and skin contact.  
R43 May cause sensitization by skin contact.  
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R53 : May cause long-term adverse effects in the aquatic environment.

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Data supplied is for use only in connection with occupational safety and health.

**DISCLAIMER:** This SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

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