Product Safety Data Sheet (PSDS)

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

Product Name: DURACELL NICKEL METAL HYDRIDE RECHARGEABLE BATTERIES (Low Self-Discharge)
Product Identification: Nickel Metal Hydride (Low Self-Discharge) Cells -
Marketing Tradenames: *Duralock, Stay Charged, Active Charge, Supreme*
Product Designations:

Battery Name/Size	Duracell Designation	IEC Designation
Duracell DX1300 D	DX1300	HR20
Duracell DX1400 C	DX1400	HR14
Duracell DX1500 AA	DX1500	HR6
Duracell DX2400 AAA	DX2400	HR03
Duracell DX1604 9V	DX1604	HR1604

Rated Capacity: Batteries are identified by their chemistry and by the designations listed above. The mAh value has no relevance regarding the safety information contained in this document.

Product Use: Energy Source
SDS Date of Preparation: July 1, 2008; Updated Feb 28, 2013
Company Identification:

European Office
Procter& Gamble SARL
Route de Saint-Georges 47
1213 Petit-Lancy, 1,
Geneva, Switzerland
Telephone: +41-58-004-6111

US Office
Duracell, a P&G Business
Berkshire Corporate Park
Bethel, CT 06801 USA
Telephone: 203-796-4000

Emergency Phone Number: See Section XIV

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-Cobalt-Manganese-Aluminum Alloy	7440-02-0/ 7440-48-4/ 7439-96-5/ 7429-90-5	231-111-4 213-158-0 213-105-1 231-072-3	20-40 %	Carc Cat 3, Xn, R40, R42/43, R53

Nickel-Cobalt- Zinc Alloy	7440-02-0/ 7440-48-4/ 7440-66-6	231-158-0	15-25 %	Carc Cat 3, Xn, R40, R42/43, R50/53
Nickel	7440-02-0	231-111-4	5-15 %	Carc Cat 3, Xi, R40, R43
Iron	7439-89-6	231-096-4	2-40 %	None
Potassium Hydroxide (35%)	1310-58-3	215-181-3	1-5 %	C, Xn, R22, R35
Sodium Hydroxide	1310-73-2	215-185-5	1-5 %	C, R35
Lithium Hydroxide	1310-65-2	215-183-4	1-5 %	C, R34

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 are 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, 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 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^3 TWA UK WEL 1 mg/m^3 VL Belgium 0,05 mg/m^3 TWA Denmark LV
Nickel (soluble compounds)	0,1 mg/m^3 TWA UK WEL 0,1 mg/m^3 VL Belgium 0,01 mg/m^3 TWA Denmark LV
Nickel (insoluble compounds)	0,5 mg/m^3 TWA UK WEL 1 mg/m^3 VL Belgium 0,05 mg/m^3 TWA Denmark LV
Manganese	0,5 mg/m^3 TWA UK WEL 0,5 mg/m^3 (inhalable) TWA DFG MAK 0,2 mg/m^3 VL Belgium 0,2 mg/m^3 TWA Denmark LV
Aluminum (as dust)	10 mg/m^3 TWA (inhalable dust), 4 mg/m3 TWA (respirable dust) UK WEL 4 mg/m^3 TWA (inhalable dust), 1.5 mg/m3 TWA (respirable dust) DFG MAK 10 mg/m^3 VL Belgium 10 mg/m^3 TWA Denmark LV
Cobalt and inorganic compounds (as Co)	0,1 mg/m^3 TWA UK WEL 0,02 mg/m^3 VL Belgium 0,01 mg/m^3 TWA Denmark LV

Zinc	None established for zinc metal
Iron	None Established for iron metal
Potassium Hydroxide	2 mg/m^3 STEL UK WEL 2 mg/m^3 VCD Belgium 2 mg/m^3 Ceiling Denmark LV
Sodium Hydroxide	2 mg/m^3 STEL UK WEL 2 mg/m^3 VL Belgium 2 mg/m^3 Ceiling Denmark LV
Lithium Hydroxide	2 mg/m^3 STEL UK WEL

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 nitrile 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: Various size battery packs.
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, lithium, zinc, aluminum and manganese; hydrogen gas, 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
Manganese: LD50 oral rat 9000 mg/kg
Potassium Hydroxide: LD50 oral rat 273 mg/kg
Sodium Hydroxide: LDLo oral rabbit 500 mg/kg
Iron: LD50 oral rat 30,000 mg/kg
Lithium Hydroxide: LD50 oral rat 210 mg/kg; LC50 inhalation rat 960 mg/m3/4 hr

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

Duracell NiMH batteries are required to be packaged in a manner that prevents the generation of a dangerous amount of heat and prevents short circuits. Product shipped in its original unopened Duracell packaging is compliant with the packaging special provisions. NiMH batteries are not defined as dangerous goods under IATA, ICAO, and ADR/RID. For air and ground transportation these batteries are not subject to dangerous goods regulations. **NiMH batteries are defined as dangerous goods under IMDG code for sea transportation.**
International Maritime Dangerous Goods (**IMDG**) Code**: UN-3496, SP-117 & SP-963**
Ground Transport (ADR/RID): Chapter 3.2 Table A: "Batteries, nickel-metal hydride, UN3496, not subject to ADR"

Air Transport (IATA)/ICAO: Special Provision A123, UN 3028 Provisions 295 - 304
Marine/Water Transport (IMDG): NiMH battery Sea Transportation regulation (UN3496; Class 9) will be effective as of January 1, 2012. **SP 963: Exemptions From Dangerous Goods** 1. Button Cells 2. Batteries Packed with or Contained in Equipment 3. Products Weighing Less than 100 kg in the Container.
For Transportation Emergencies: CALL 1+703-3887 (CHEMTREC)

SECTION 15: REGULATORY INFORMATION

EU Classification of Preparation: Not classified as a dangerous preparation
EU Battery Directive: Duracell alkaline batteries comply with the substance restriction limits and labeling requirements set forth in the **EU Battery Directive 2006/66/EC** and as a result contain <0.0005% (5 ppm) mercury, <0.002% (20 ppm) cadmium and <0.004% (40 ppm) lead. The chemical symbols Hg, Cd and Pb are therefore **not** required below the separate collection symbol.
EU RoHS Directive: Batteries are not subject regulation.
EU REACH: Subject battery products are "articles" under REACH and not subject to REACH registration or e-SDS requirements. To the best of our knowledge, Duracell alkaline batteries do not contain any of SVHCs on the ECHA Candidate List.
EU Labeling: None required. Labeling is not required because batteries are classified as articles under 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
Xi Irritant
Xn Harmful
R10 Flammable
R15 Contact with water liberates extremely flammable gases.
R22 Harmful if swallowed.
R34 Causes burns
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.

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