Gillette
Environment
Health and Safety

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MATERIAL SAFETY DATA SHEET

NAME: DURACELL NICKEL METAL HYDRIDE BATTERIES

CAS NO: Not applicable **Effective Date:** 5/5/03 **Rev:** 3

A. — IDENTIFICATION

	%
Nickel (7440-02-0)	55-70
Cobalt (7440-48-4)	5-10
Potassium Hydroxide (35%) (1310-58-3)	1-5
Aluminum (7429-90-5)	1-5
Sodium Hydroxide (1310-73-2)	1-5
Manganese (7439-96-5)	1-5

Formula: Mixture — Mixture

Molecular Weight: NA

Synonyms: Nickel Metal Hydride Cells: DR7, DR8, DR10, DR11, DR12, DR13, DRCB4, DRCB8, DRCB9, DRCB14, SRCB15, DRCB16, DRCB17, DRCB19, DRKAA2RES, DRV32

B. — PHYSICAL DATA

Boiling Point: NA °F NA °C	Melting Point: NA °F NA °C	Freezing Point: NA °F NA °C
Specific Gravity (H_2O=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 battery packs. Contents dark in color.

Flash Point Test Method(s): NA

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

C. — REACTIVITY

Stability		Polymerization		
[X] stable	[ ] unstable	[ ] may occur	[X] will not occur	

Conditions to Avoid

Do not heat, crush, disassemble or short circuit.

Conditions to Avoid

Not applicable

Incompatible Materials

Contents incompatible with strong oxidizing agents.

Hazardous Decomposition Products

Thermal degradation may produce hazardous metal fumes; hydrogen gas; caustic vapors of potassium and sodium hydroxides 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^3 (OSHA); 0.2 mg/m^3 (ACGIH); 0.05 mg/m^3 (Gillette)
Nickel (elemental) - 1.5 mg/m^3 (ACGIH); 1.0 mg/m^3 (OSHA)
Nickel (soluble compounds, as Ni) - 0.1 mg/m^3 (ACGIH/OSHA)
Cobalt (elemental and inorganic compounds, as Co) - 0.02 mg/m^3 (ACGIH)
Cobalt (fume and dust) - 0.1 mg/m^3 (OSHA)
Potassium Hydroxide - 2.0 mg/m^3 (Ceiling) (ACGIH)
Aluminum (dust) - 10.0 mg/m^3 (ACGIH); 15 mg/m^3 (total dust, OSHA)
- 5 mg/m^3 (respirable, OSHA)
Sodium Hydroxide - 2.0 mg/m^3 (Ceiling) (OSHA/ACGIH)
Manganese - 5 mg/m^3 (Ceiling) (OSHA); 0.2 mg/m^3 (ACGIH/Gillette)

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 and sodium hydroxides, which is caustic. Anticipated potential leakage of potassium and sodium hydroxides is 1-2 gms.

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

The Duracell Rechargeable Recycling Program should be utilized to recycle the battery packs. See battery pack or instructions for a phone number to access the recycling program. 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	Extinguishing Media
Batteries may burst and release hazardous decomposition products when exposed to a fire situation. See Sec. C.	Water, carbon dioxide, sand, Class "D" extinguisher.

Firefighting Procedures

Use self-contained breathing apparatus and full protective gear.

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 and sodium hydroxides 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 and sodium hydroxides is 1-2 grams.
4) If the cell is abusively opened the electrodes may react with air and ignite.

Replaces #1472, changes to A

Also Valid for product numbers: DR10-DR15 (6V);DR17; DR19; DR30; DR31; DR35; DR36; DR100, DR101-106 (6V); DR107-113; DR115; DR116(6V);DR117; DR118; DR121-DR123 (6V); DR124;DR125; DR142; DR918 (battery packs)