Safety Data Sheet

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

Product Name: DURACELL SILVER OXIDE BATTERIES
Product Identification: Silver Oxide Button Cells –

Product Use: Energy Source
SDS Date of Preparation: July 1, 2008

Battery Name/Size	Duracell Designation	Voltage	IEC Designation
Duracell 362/361	362/361	1,5	SR58
Duracell 364	364	1,5	SR60
Duracell 371/370	371/370	1,5	SR69
Duracell 377	377	1,5	SR66
Duracell 386/301	386/301	1,5	SR43
Duracell 389/390	389/390	1,5	SR54
Duracell 391/381	391/381	1,5	SR55
Duracell 391/384	392/384	1,5	SR41
Duracell 394	394	1,5	SR45
Duracell 399/395	399/395	1,5	SR57
Duracell 357/303	357/303	1,5	SR44

Company Identification

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Emergency Phone Number: INFOTRAC 24-Hour Emergency Response Hotline: 1-352-323-3500 (United States of America)

SECTION 2: HAZARDS IDENTIFICATION

Physical Appearance: Button cells

CAUTION: Do not recharge or dispose of batteries in fire. Do not carry batteries loose in your pocket or purse. Keep batteries away from children. If swallowed, consult a physician at once. For information on treatment, call the NATIONAL BUTTON BATTERY INGESTION HOTLINE, collect to the United States of America, day or night at (202) 625-3333.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Amount	Classification
Silver Oxide	20667-12-3	234-957-1	27-40 %	None
Zinc	7440-66-6	231-175-3	7-11 %	N, R50/53
Potassium Hydroxide (35 %)	1310-58-3	215-181-3	0-10 %	C, Xn, R22, R35
Sodium Hydroxide	1310-73-2	215-185-5	0-10 %	C, R35
Manganese Dioxide	1313-13-9	215-202-6	0-3 %	Xn, R20/22
Mercuric Oxide	21908-53-2	234-654-7	<1 %	T+, N R26/27/28, R33, R50/53

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, is accidentally swallowed or is mechanically, physically, or electrically abused. Damaged battery will release potassium hydroxide and sodium hydroxide, which are caustic. Anticipated potential leakage of potassium hydroxide/sodium hydroxide is 0.05 to 0.5 ml, depending on battery size.

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: Seek immediate medical advice. Batteries lodged in the esophagus should be removed immediately since leakage, caustic burns and perforation can occur as soon as two hours after ingestion. If mouth area irritation or burning has occurred, rinse the mouth and surrounding area with tepid water for at least 15 minutes. Do not give ipecac.

Note to Doctor: Published reports recommend removal from the esophagus be done endoscopically (under direct visualization). Batteries beyond the esophagus need not be retrieved unless there are signs of injury to the GI tract or a large diameter battery fails to pass the pylorus. If asymptomatic, follow-up x-rays are necessary only to confirm the passage of larger batteries. Confirmation by stool inspection is preferable under most circumstances. For information on treatment, telephone (202) 625-3333, collect to the United States of America, day or night. The primary acutely toxic ingredient is concentrated (35 %) potassium hydroxide and/or (20-30 %) sodium hydroxide. Mercury toxicity is unlikely, but physician's discretion is advised. Anticipated potential leakage volume of potassium hydroxide/sodium hydroxide is 0.05 to 0.5 ml. Do not give ipecac.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Batteries may burst and release hazardous decomposition products when exposed to a fire situation.

Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding fire.

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 rocket or explode in heat of fire).

Hazardous Combustion Products: Thermal degradation may produce hazardous fumes of mercury, zinc, silver and manganese; hydrogen gas, caustic vapors of potassium hydroxide, sodium hydroxide and other toxic by-products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large spills. Caustic potassium hydroxide and sodium hydroxide 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. Batteries may explode, pyrolize or vent if disassembled, crushed, recharged 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
Silver Oxide	0,1 mg/m^3 TWA UK WEL (as Ag) 0,1 mg/m^3 TWA (inhalable) DFG MAK (as Ag)
Zinc	None established for zinc 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
Manganese Dioxide	0,5 mg/m^3 TWA UK WEL 0,5 mg/m^3 TWA (inhalable) DFG MAK 0,2 mg/m^3 VL Belgium 0,2 mg/m^3 TWA Denmark LV
Mercuric Oxide	0,1 mg/m^3 TWA DFG MAK Sh 0,025 mg/m^3 VL Belgium Note D 0,025 mg/m^3 TWA Denmark LV Note H

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: Button cells.
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, short circuit or recharge.

Hazardous Decomposition Products: Thermal decomposition may produce hazardous fumes of mercury, zinc, silver and manganese; hydrogen gas, caustic vapors of potassium hydroxide, 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, is accidentally swallowed, or is mechanically, physically, or electrically abused. Damaged battery will release potassium hydroxide and sodium hydroxide, which are caustic. Anticipated potential leakage of potassium hydroxide/sodium hydroxide is 0.05 to 0.5 ml, depending on battery size.

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: If battery is swallowed, seek medical attention. Batteries lodged in the esophagus should be removed immediately since leakage, caustic burns and perforation can occur as soon as two hours after ingestion. Irritation, including caustic burns to the internal/external mouth areas, may occur following exposure to a leaking battery.

Acute Toxicity Data:
Silver Oxide: LD50 oral rat 2820 mg/kg
Potassium Hydroxide: LD50 oral rat 273 mg/kg
Sodium Hydroxide: LDLo oral rabbit 500 mg/kg
Manganese Dioxide: LD50 oral rat >3478 mg/kg
Mercuric Oxide: LD50 oral rat 18 mg/kg; LD50 dermal rat 315 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. No chronic effects would be expected from handling a leaking battery.

Target Organs: Skin, eyes and respiratory system.

Carcinogenicity: None of the 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. Large quantities of open batteries should be treated as hazardous waste. Do not incinerate for disposal except in a controlled incinerator.

Duracell silver oxide 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 "ddry cell" batteries and 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
N Dangerous for the Environment
T+ Very toxic.
Xn Harmful
R20/22 : Harmful by inhalation and if swallowed.
R22 Harmful if swallowed.
R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
R33 Danger of cumulative effects.
R35 Causes severe burns
R50/53 : Very toxic to aquatic organisms, 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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