Gillette Medical Evaluation Laboratories

MATERIAL SAFETY DATA SHEET (according to 93/112/EEC) **Page 1 of 4**
Product: DURACELL LITHIUM MANGANESE DIOXIDE BATTERIES **GMEL # 1894.3E**
Date / revised: 06/11/01 **Revision: 3**

1. Substance/preparation and company name

Duracell Lithium Manganese Dioxide Batteries: DL2/3A, DL123A (3V); DL223A(6V); DL245(6V); DL323A, DLCR2(3V); CR-V3P (3V) and batteries comprised of DL2/3A cells.

Company:
Duracell Batteries Ltd.
c/o Gillette U.K. Ltd.
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Isleworth, Middlesex
TW7 5NP
UK

Country contact numbers:
Austria: 02236 645240
Belgium: 02 711 9102
Denmark: 33 26 9100
Finland: 09 452 8737
France: 01 47 48 70 00
Germany: 02 21 59670
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Netherlands: 070 4131 800
Norway: 022 72 8810
Portugal: 011 7210950
Spain: 091 387 9600
Sweden: 08 6292700
Switzerland: 017 55 62 42
United Kingdom: 0181 560 1234

2. Composition/information on ingredients

Chemical nature:	Wt. %	CAS No.	EEC No.	Index No.	Classification
Manganese Dioxide	65-75	1313-13-9	215-202-6	025-001-00-3	Xn, R20/22
1,2-Dimethoxyethane	5-10	110-71-4	203-794-9	603-031-00-3	Xn; R10/19/20; S2/24/25
Propylene Carbonate	1-5	108-32-7	203-572-1	607-194-00-1	Xi; R36; S2
Lithium	1-5	7439-93-2	231-102-5	003-001-00-4	F; C; R14/15/34; S1/2

3. Possible hazards

Critical hazards to man: If battery leaking, exposure to harmful ingredients may occur.
Critical hazards to the environment: Not applicable
Other Information: Keep batteries away from small children.

4. First aid measures

General advice: 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.

If inhaled: Not anticipated. Respiratory (and eye) irritation may occur if fumes are released due to heat or an abundance of leaking batteries. Remove to fresh air. Contact physician if irritation persists.

On skin contact: Not anticipated. Irritation may occur following exposure to a leaking battery. Irrigate exposed skin with copious amounts of clear, tepid water for at least 15 minutes. If irritation, injury or pain persists, consult a physician.

On contact with eyes: Not anticipated. Irritation may occur following exposure to a leaking battery. If battery is leaking and material contacts eyes, flush with copious amounts of clear, tepid water, for 30 minutes. Contact physician at once.

4. **First aid measures (continued)**

On ingestion: Not anticipated. Irritation to the internal/external mouth area may occur following exposure to a leaking battery. Rinse 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) Potential leakage of 1,2-dimethoxyethane, propylene carbonate and lithium trifluoromethane sulfonate.
2) 1,2-dimethoxyethane readily evaporates.
3) Under certain misuse conditions and by abusively opening the battery, exposed lithium can react with water or moisture in the air causing potential thermal burns or fire hazard.

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5. Fire fighting measures

Suitable extinguishing media: As for surrounding area. Dry chemical, alcohol foam, water or carbon dioxide. For incipient fires, carbon dioxide extinguishers are more effective than water.

Special protective equipment: In fires involving large quantities of product, use self-contained breathing apparatus and full protective clothing.

Further information: Hazardous decomposition products may be produced. (Sec. 10).

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6. Accidental release measures

Personal precautions: Notify safety personnel of large spills. Increase ventilation. Avoid eye or skin contact. **DO NOT** inhale vapours. Clean-up personnel should wear appropriate protective gear. Remove spilled liquid with absorbent and contain for disposal.

Environmental precautions: Not applicable

Methods for cleaning up: Not applicable

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7. Handling and storage

Handling
Avoid mechanical or electrical abuse. **DO NOT** short or install incorrectly. 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 pocket or bag.

Storage
Store at room temperature.

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8. Exposure controls and personal protection

8-Hour TWAs: Manganese Dioxide (as Mn) - 5 mg/m^3 (U.K.), (Ceiling) (OSHA);
0.2 mg/m^3 (ACGIH/Duracell)
1,2-Dimethoxyethane - 0.15 ppm (Duracell)
Carbon Black - 3.5 mg/m^3 (OSHA/ACGIH/U.K.); 7 mg/m^3 (STEL) (U.K.)
Lithium Trifluoromethane Sulfonate - 0.1 mg/m^3 (3M recommendation)

These levels are not anticipated under normal consumer use conditions.

8. Exposure controls and personal protection (continued)

Personal protective equipment

Respiratory equipment: None required under normal use conditions.
Hand protection: None required under normal use conditions. Use butyl gloves when handling leaking batteries.
Eye protection: None required under normal use conditions. Wear safety glasses when handling leaking batteries.
General safety and hygiene measures: Use only as directed.

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9. Physical and chemical properties

Form and Colour: Small cylindrical batteries. Contents dark in colour.
Odour: Not applicable

Change in physical state

Melting point/melting range: Not available
Boiling point/boiling range: Not available

Flash point: Not applicable

Explosion limits: Not available

Ignition temperature: Not available

Vapour pressure: Not available

Specific Gravity: Not available

% Volatiles: Not available

Solubility in water: Not applicable

Solubility in other solvents: Not applicable

pH value: Not applicable

Octanol/water partition coefficient (log POW): Not available

Viscosity: Not available

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10. Stability and reactivity

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

Substance(s) to avoid: Strong oxidisers

Hazardous reactions: Contents incompatible with strong oxidising agents.

Hazardous decomposition products: Thermal degradation may produce hazardous fumes of manganese and lithium; hydrofluoric acid; oxides of carbon and other toxic by-products.

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11. Toxicological information

Toxicity information is available on the toxic battery ingredients noted in Section 2, but, generally not applicable to intact batteries as used by consumers.

Chronic Health Effects: Not applicable to intact batteries.

12. Ecological information

None available regarding product.

13. Disposal considerations

Product: Dispose of in accordance with appropriate regulations. If in doubt contact your national Gillette office for information. Do not incinerate, since batteries may explode at excessive temperatures.

14. Transport information

UN Number:	None
IMO Classification:	None
ADR Classification:	None
IATA Classification:	None

These batteries are not regulated by U. S. DOT or international agencies as hazardous materials or dangerous goods when shipped. A shipping name of 'Alkaline Batteries - Non-hazardous' may be used on all domestic and international bills of lading.

15. Regulatory information

EC Labeling:	None
Risk Phrases:	None
Safety Phrases:	None

Labeling is not required because batteries are classified as "articles" under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

16. Other information: Revision change product code 123A to DL123A; add CRV3

Preparation of MSDS:

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