

Maintenance

ITEM: 1ANB9 - Industrial Battery 6V Lithium Phot

MSDS: A8504

ORDER: 0043625640

LP NUMBER: U176340330-A

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A8504

Associated Grainger Items
1ANB7, 1ANB9, 1FYB9, 2HYJ8, 2HYJ9, 2HYK1

GILLETTE ENVIRONMENT HEALTH AND SAFETY

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MATERIAL SAFETY DATA SHEET

NAME: DURACELL LITHIUM MANGANESE DIOXIDE BATTERIES

CAS NO: NOT APPLICABLE

EFFECTIVE DATE: 4/4/05

REV: 9

A. IDENTIFICATION

	%
MANGANESE DIOXIDE (1313-13-9)	30-45
1,2-DIMETHOXYETHANE (110-71-4)	5-10
PROPYLENE CARBONATE (108-32-7)	1-10
LITHIUM (7439-93-2)	1-5
CARBON BLACK (1333-86-4)	1-5
LITHIUM TRIFLUOROMETHANE SULFONATE (33454-82-9)	1-5
ETHYLENE CARBONATE (96-49-1)	0-5

FORMULA: MIXTURE

MOLECULAR WEIGHT: NA

SYNONYMS:

LITHIUM MANGANESE DIOXIDE CELLS:
DL2/3A
DL123A (3V)
DL223A (6V)
DL245 (6V)
DL323A (6V)
DL323A (9V)
DLCR2
PL123
CR-V3P (3V)
BATTERIES COMPRISED OF DL2/3A CELLS, AND DLF533570.

B. PHYSICAL DATA

BOILING POINT:
NA DEG. F
NA DEG. C

MELTING POINT:
NA DEG. F
NA DEG. C

FREEZING POINT:
NA DEG. F
NA DEG. C

SPECIFIC GRAVITY (H2O=1): NA

VAPOR DENSITY (AIR=1): NA

VAPOR PRESSURE @ DEG. F: NA MMHg

EVAPORATION (ETHER=1): NA

SATURATION IN AIR (BY VOLUME @ () DEG. F): NA

AUTOIGNITION TEMPERATURE: NA
() DEG. F
() DEG. C

% VOLATILES: NA

SOLUBILITY IN WATER: NA

pH: NA

APPEARANCE/COLOR: SMALL CYLINDRICAL BATTERIES. CONTENTS DARK IN COLOR.

FLASH POINT AND TEST METHOD(S):
1,2-DIMETHOXYETHANE: 42.8 DEG. F, 6 DEG. C (CLOSED CUP)

FLAMMABLE LIMITS IN AIR (% BY VOLUME):
LOWER: NA %
UPPER: NA %

C. REACTIVITY

STABILITY:
(X) STABLE
() UNSTABLE

POLYMERIZATION:
() MAY OCCUR
(X) WILL NOT OCCUR

CONDITIONS TO AVOID:
DO NOT HEAT, CRUSH, DISASSEMBLE, SHORT CIRCUIT OR RECHARGE.

CONDITIONS TO AVOID: NOT APPLICABLE

INCOMPATIBLE MATERIALS: CONTENTS INCOMPATIBLE WITH STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:
THERMAL DEGRADATION MAY PRODUCE HAZARDOUS FUMES OF MANGANESE AND LITHIUM; HYDROFLUORIC ACID; OXIDES OF CARBON AND SULFUR AND OTHER TOXIC BY-PRODUCTS.

* IF MULTIPLE INGREDIENTS, INCLUDE CAS NUMBERS FOR EACH

NA=NOT AVAILABLE

FOOT NOTES: NOT APPLICABLE

D. HEALTH HAZARD DATA

OCCUPATIONAL EXPOSURE LIMITS PEL'S, TLV'S, ETC.

8-HOUR TWAS:

MANGANESE DIOXIDE (AS Mn):
5 MG/M3 (CEILING) (OSHA)
0.2 MG/M3 (ACGIH/GILLETTE)

1,2-DIMETHOXYETHANE: 0.15 PPM (GILLETTE)

CARBON BLACK: 3.5 MG/M3 (OSHA/ACGIH)

LITHIUM TRIFLUOROMETHANE SULFONATE: 0.1 MG/M3 (3M RECOMMENDATION)

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 TEMPERATURE OR IS MECHANICALLY, PHYSICALLY, OR ELECTRICALLY ABUSED.

1. INHALATION:

NOT ANTICIPATED. RESPIRATORY (AND EYE) IRRITATION MAY OCCUR IF FUMES ARE RELEASED DUE TO HEAT OR AN ABUNDANCE OF LEAKING BATTERIES.

2. INGESTION:

IRRITATION TO THE INTERNAL/EXTERNAL MOUTH AREA MAY OCCUR FOLLOWING EXPOSURE TO A LEAKING BATTERY.

3. SKIN:

A. CONTACT: IRRITATION MAY OCCUR FOLLOWING EXPOSURE TO A LEAKING BATTERY.
B. ABSORPTION: NOT ANTICIPATED.

4. EYE CONTACT:

IRRITATION MAY OCCUR FOLLOWING EXPOSURE TO A LEAKING BATTERY.

5. OTHER: NOT APPLICABLE

E. ENVIRONMENTAL IMPACT

1. APPLICABLE REGULATIONS: ALL INGREDIENTS LISTED IN TSCA INVENTORY.

2. DOT HAZARD CLASS: APPLICABLE

3. DOT SHIPPING NAME: APPLICABLE

"DURACELL CERTIFIES THAT ALL OF ITS LITHIUM BATTERIES MEET THE REQUIREMENTS OF THE UN MANUAL OF TESTS AND CRITERIA, PART III SUBSECTION 38.3. IF YOU ASSEMBLE THESE BATTERIES INTO LARGER BATTERY PACKS, IT IS RECOMMENDED THAT YOU PERFORM THE UN TESTS TO ENSURE THE REQUIREMENTS ARE MET PRIOR TO SHIPMENT. CELLS AND BATTERIES ARE TO BE SEPARATED SO AS TO PREVENT SHORT CIRCUITS AND PACKED IN STRONG PACKAGING, EXCEPT WHEN INSTALLED IN EQUIPMENT. EXCEPT WHEN INSTALLED IN EQUIPMENT, EACH PACKAGE CONTAINING MORE THAN 24 CELLS OR 12 BATTERIES MUST BE MARKED INDICATING THAT IT CONTAINS LITHIUM BATTERIES AND THAT SPECIAL PROCEDURES SHOULD BE FOLLOWED IN THE EVENT THAT THE PACKAGING IS DAMAGED. IN ADDITION, EACH SHIPMENT MUST BE ACCOMPANIED BY APPROPRIATE DOCUMENTATION AND THE PACKAGE OF A TYPE CAPABLE OF MEETING THE DROP TEST REQUIREMENTS. EXCEPT FOR PERSONAL USE, THE SHIPMENT OF LITHIUM BATTERIES ABOARD PASSENGER AIRCRAFT IS NO LONGER ALLOWED. THE FOLLOWING NEW MARKING REQUIREMENT APPLIES TO ALL LITHIUM BATTERY SHIPMENTS THAT ARE EXEMPTED FROM CLASS 9 ACCORDING TO CFR49: PRIMARY LITHIUM BATTERIES - FORBIDDEN FROM TRANSPORT ABOARD PASSENGER AIRCRAFT". THIS WORDING SHOULD APPEAR ON ALL PACKAGES OFFERED FOR SHIPMENT."

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 BUTYL 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, PYROLYZE 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.

NORMAL CLEAN UP: NOT APPLICABLE

WASTE DISPOSAL METHODS:

NO SPECIAL PRECAUTIONS ARE REQUIRED FOR SMALL QUANTITIES. LARGE QUANTITIES OF OPEN BATTERIES SHOULD BE TREATED AS HAZARDOUS WASTE. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. DO NOT INCINERATE, SINCE BATTERIES MAY EXPLODE AT EXCESSIVE TEMPERATURES.

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. EVACUATE THE AREA AND ALLOW VAPORS TO DISSIPATE. INCREASE VENTILATION. AVOID EYE OR SKIN CONTACT. DO NOT INHALE VAPORS. CLEAN-UP PERSONNEL SHOULD WEAR APPROPRIATE PROTECTIVE GEAR. REMOVE SPILLED LIQUID WITH ABSORBENT AND CONTAIN FOR DISPOSAL.

FIRE AND EXPLOSION HAZARD:

BATTERIES MAY BURST AND RELEASE HAZARDOUS DECOMPOSITION PRODUCTS WHEN EXPOSED TO A FIRE SITUATION. SEE SEC. C.

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.

FIREFIGHTING PROCEDURES:

COOL FIRE-EXPOSED BATTERIES AND ADJACENT STRUCTURES WITH WATER SPRAY FROM A DISTANCE. 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 A 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) POTENTIAL LEAKAGE OF DIMETHOXYETHANE, PROPYLENE CARBONATE AND LITHIUM TRIFLUOROMETHANE SULFONATE.
- 2) DIMETHOXYETHANE RAPIDLY 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.

THE INFORMATION CONTAINED IN THE MATERIAL SAFETY DATA SHEET IS BASED ON DATA CONSIDERED TO BE ACCURATE, HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

MSDS-5 (2/00)

GMEL#: 2003.9