

BATTERY TECHNOLOGY COMPANY -- LITHIUM/MANGANESE DIOXIDE BATTERY, PN:PX28L (SEE SUPPLE) -- 6135-01-243-5797

===== Product Identification =====

Product ID:LITHIUM/MANGANESE DIOXIDE BATTERY, PN:PX28L (SEE SUPPLE)

MSDS Date:01/13/1992

FSC:6135

NIIN:01-243-5797

MSDS Number: BVHKB

=== Responsible Party ===

Company Name:BATTERY TECHNOLOGY COMPANY

Address:305 NEW HIGHWAY 64E

City:LEXINGTON

State:NC

ZIP:2

7292-2037

Country:US

Info Phone Num:704-249-9101

Emergency Phone Num:203-796-4000/617-449-7600

CAGE:06121

=== Contractor Identification ===

Company Name:BATTERY TECHNOLOGY COMPANY (WAS MALLORY BATTERY CO

Box:305

CAGE:06121

Company Name:DURACELL USA (ALIAS BATTERY TECHNOLOGY COMPANY)

Address:305 NEW HIGHWAY 64 EAST

Box:City:LEXINGTON

State:NC

ZIP:27292-2037

Country:US

Phone:617-449-7600

CAGE:2A917

===== Composition/Information on Ingredients =====

Ingred Name:LITHIUM METAL

CAS

:7439-93-2

RTECS #:OJ5540000

Fraction by Wt: 0.5%

Other REC Limits:NONE RECOMMENDED

Ingred Name:MANGANESE DIOXIDE

CAS:1313-13-9

RTECS #:OP0350000

Fraction by Wt: 5.6%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:5 MG MN/M3 CEILING

ACGIH TLV:5 MG MN/M3

Ingred Name:CARBON BLACK

CAS:1333-86-4

RTECS #:FF5800000

Fraction by Wt: 0.4%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:3.5 MG/M3

ACGIH TLV:3.5 MG/M3; 9394

C Limits:NONE RECOMMENDED
OSHA PEL:15 MPPCF; Z-3
ACGIH TLV:2 MG/M3 RDUST; 9394

Ingred Name:TEFLON
Fraction by Wt: 0.2%
Other REC Limits:NONE RECOMMENDED

Ingred Name:PROPYLENE CARBONATE (PC)
CAS:108-32-7
RTECS #:FF9650000
Fraction by Wt: 0.25%
Other REC Limits:NONE RECOMMENDED

Ingred Name:ETHYLENE CARBONATE (EC)
Fraction by Wt: 0.25%
Other REC Limits:NONE RECOMMENDED

Ingred Name:DIMETHOXY ETHER (DME)
Fraction by Wt: 1.2%
Other REC Limits:NONE RECOMMENDED

Ingred Name:LITHIUM TRIFLUOROMETHANE
SULFONATE (LITFS)
CAS:33454-82-9
Fraction by Wt: 0.1%
Other REC Limits:NONE RECOMMENDED

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===== Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:CHEMICALS CONTAINED IN SEALED CAN.
RISK OF EXPO OCCURS ONLY IF BATTERY IS MECHANICALLY/ELECTRICALLY
ABUSED. MOST LIKELY RISK IS ACUTE EXPO WHEN CELL VENTS. PC MILDLY
EYE/SKIN IRRIT. DME
BELIEVED TO BE SLIGHTLY TO MODERATELY TOXIC.
AVOID ELECTROLYTE & EXTRUDED LI W/SKIN/EYES. INHAL/INGEST OF LITFS
MAY BE HARMFUL.
Explanation of Carcinogenicity:PER MSDS:NOT CARCINOGENIC PER
NTP/IARC/OSHA.
Effects of Overexposure:IRRITATION OF SKIN OR EYES. LITHIUM CAN CAUSE
THERMAL AND CHEMICAL BURNS UPON CONTACT W/THE SKIN. DME MAY BE A
REPORDUCTIVE HAZARD.
Medical Cond Aggravated by Exposure:AN ACUTE EXPOSURE WILL NOT
GENERALLY AGGRAVATE ANY MEDICAL CONDITION.

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First Aid Measures
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First Aid:IN CASE OF SKIN CONTACT W/CONTENTS OF BATTERY, FLUSH IMMEDIATELY WITH WATER. FOR EYE CONTACT FLUSH WITH COPIOUS AMTS OF WATER FOR 15MINS. DO NOT INHALE VENTED MATERIAL. IF IRRITATION PERSISTS GET MEDICAL HELP.

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Fire Fighting Measures
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Flash Point Method:OC

Flash Point:EC 143, PC 135

Extinguishing Media:WATER.

Fire Fighting Procedures:THE PREFERRED PROCEDURE IS TO RAPIDLY COOL THE BATTERIES AND ADJACENT STRUCTURES WITH WATER. WHEN LARGE NUMBER OF CELLS ARE INVOLVED IN FIRE, FIREFIGHTERS USE SCBA.

Unusual Fire/Explosion Hazard:CELLS CAN VENT WHEN SUBJECTED TO EXCESSIVE HEAT. WHEN LARGE NUMBERS OF CELLS ARE INVOLVED IN A FIRE, FIREFIGHTERS SHOULD USE SCBA.

Neutralizing Agent:NONE SPECIFIED BY MFG.

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Accidental Release Measures
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Spill Release Procedures:PREFERRED RESPONSE IS TO LEAVE AREA & ALLOW BATTERIES TO COOL & VAPORS TO DISSIPATE. AVOID SKIN/EYE CONTACT OR INHALATION OF VAPORS. REMOVE SPILLED LIQUID WITH ABSORBENT & INCINERATE. PREFERABLY, CLEAN-UP CREW SHOULD WEAR FULL-FACE RESPIRATOR (PART/Organic Vapor Cartridge)

Neutralizing Agent:NONE SPECIFIED BY MFG.

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Handling and Storage
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Handling and Storage Precautions:AVOID MECHANICAL OR ELECTRICAL ABUSE.

Other Precautions:BATTERIES MAY EXPLODE, PYROLYSE, OR VENT IF DISASSEMBLED, CRUSHED, RECHARGED OR EXPOSED TO FIRE OR HIGH TEMPERATURES. DO NOT SHORT OR INSTALL WITH INCORRECT POLARITY.

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Exposure Controls/Personal Protection
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Respiratory Protection:SCBA (FIRE); FULL-FACE RESPIRATOR WITH PARTICULATE/ORGANIC VAPOR CARTRIDGE (SPILL).

Ventilation:IN CASE OF VENTING PROVIDE AS MUCH VENTILATION AS POSSIBLE.

Protective Gloves:BUTYL GLOVES.

Eye Protection:SAFETY GLASSES.

Other Protective Equipment:NONE.

Supplemental Safety and Health

OTHER PN:DL 1/3N;DL 2/3A;123A;223A;245;323A & BATTERY COMPRISE OF DL 2/3A CELL. PHYS/CHEM:BP(C):EC 244,PC 2

42,MDE 85;VAP PRESS:EC .01,PC
.03,DME 61;VAP DEN:EC 3.04,DME 3.1;SOLU:EC/PC MODERATELY,DME/LI TFS
COMPLETELY;SPEC GRA:EC 1.322,PC 1.203,MNO2 5.03,LI .54,DME
.868,LITFRS .6;DME NO COLOR LIQ W/SWEET ODOR.DME -6(CC).

===== Physical/Chemical Properties =====

HCC:Z6

Boiling Pt:B.P. Text:SUPPLEMENT

Melt/Freeze Pt:=180.C, 356.F

M.P/F.P Text:LI 180C

Vapor Pres:SUPPLEMENT

Vapor Density:SUPPLEMENT

Spec Gravity:SUPPLEMENT

Evaporation Rate & Reference:DME 4.99,

BUTYL ACETATE=1

Solubility in Water:SUPPLEMENT

Appearance and Odor:PC/EC NO ODOR/COLOR LIQ;LI SOFT,SILVERY

METAL;MNO2/CARBON BLK/GRAPH BLK PWD;SUP

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

NONE SPECIFIED BY MFG.

Stability Condition to Avoid:DO NOT HEAT, DISASSEMBLE, OR RECHARGE.

Hazardous Decomposition Products:NONE SPECIFIED BY MFG.

===== Disposal Considerations =====

Waste Disposal Meth

ods:DISPOSE IN ACCORDANCE WITH APPROPRIATE

REGULATIONS. OPEN CELL SHOULD BE TREATED AS HAZARDOUS WASTE.

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