

DURACELL INC TECHNICAL SALES AND MARKETING GROUP -- LITHIUM/MANGANESE DIOXIDE
BATTERY DL2032 -- 6135-01-210-8715

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

Product ID:LITHIUM/MANGANESE DIOXIDE BATTERY DL2032

MSDS Date:10/25/1989

FSC:6135

NIIN:01-210-8715

Status Code:A

MSDS Number: CKQWR

=== Responsible Party ===

Company Name:DURACELL INC TECHNICAL SALES AND MARKETING GROUP

Address:BERKSHIRE CORPORATE PA
RK

City:BETHEL

State:CT

ZIP:06801

Country:US

Info Phone Num:203-796-4000

Emergency Phone Num:203-736-4000

CAGE:90303

=== Contractor Identification ===

Company Name:DURACELL INC TECHNICAL SALES AND MARKETING GROUP

Address:BERKSHIRE CORPORATE PARK

Box:City:BETHEL

State:CT

ZIP:06801

Country:US

Phone:203-796-4000

CAGE:90303

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

Ingred Name:LITHIUM

CAS:7439-93-2

RTECS #:OJ5540000

= Wt:2.5

Ingred Name:MANGANESE DIOXIDE (MNO2)

CAS:131

3-13-9
RTECS #:OP0350000
= Wt:30.
OSHA PEL:C5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:GRAPHITE (SYNTHETIC, GR)
CAS:7782-42-5
RTECS #:MD9659600
= Wt:3.
OSHA PEL:SEE TABLE Z-3
ACGIH TLV:2 MG/M3

Ingred Name:PROPYLENE CARBONATE (PC)
CAS:108-32-7
RTECS #:FF9650000
= Wt:5.

Ingred Name:DIMETHOXYETHANE OR 1,2-DIMETHOXYETHANE
CAS:110-71-4
RTECS #:KI1451000
= Wt:2.5
Other REC Limits:3 MG/M3 (INDUSTRY)

Ingred Name:LITHIUM PERCHLORATE (LICLO4)
CAS:7791-03-9
= Wt:.5

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

LD50 LC50 Mixture:NO DATA PROVIDED BY RESPONSIBLE PARTY.
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:THESE CHEMICALS ARE IN A SEALED CAN.
RISK OF EXPOSURE OCCURS ONLY IF THE BATTERY IS MECHANICALLY OR
ELECTRICALLY ABUSED. THE MOST LIKELY RISK IS ACUTE EXPOSURE WHEN A
CELL VENTS. PC IS MILDLY IRRITATING ON SYE AND SKIN CONTACT. DME
IS BELIEVED TO BE SLIGHTLY TO MODERATELY TOXIC. CONTACT OF
ELECTROLYTE AND EXTRUDED LITHIUM WITH SKIN AND EYES SHOULD BE
AVOIDED.
Explanation of Carcinogenicity:NO DATA PROVIDED BY RESPONSIBLE PARTY.
Effects of Overexposure:IRRITATION OF SKIN AND EYES. LITHIUM CAN CAUSE
THERMAL AND CHEMICAL BURNS UPON CONTACT WITH THE SKIN. DMA MAY BE A
REPRODUCTIVE HAZARD.
Medical Cond Aggravated by Exposure:AN ACUTE EXPOSURE WILL NOT
GENERALLY AGGRAVATE ANY MEDICAL ATTENTION.

===== First Aid

Measures =====

First Aid:IN CASE OF SKIN CONTACT WITH CONTENTS OF BATTERY, FLUSH IMMEDIATELY WITH WATER. FOR EYE CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR 15 MINUTES. DO NOT INHALE VENTED MATERIAL. IF IRRITATION PERSIS TS, GET MEDICAL HELP.

===== Fire Fighting Measures =====

Flash Point Method:OC

Flash Point:=57.2C, 135.F

PC

Lower Limits:2.3 (PC)

Extinguishing Media:WATER.

Fire Fighting Procedures:THE PREFERRED PROCEDURE IS TO RAPIDLY COOL THE

BATTERIES AND ADJACENT STRUCTURES WITH WATER.

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

===== Accidental Release Measures =====

Spill Release Procedures:THE PREFERRED RESPONSE IS TO LEAVE THE AREA AND ALLOW BATTERIES TO COOL AND VAPORS DISSAPATE. AVOID SKIN AND EYE CONTACT OR INHALATION OF VAPORS. REMOVE S

PILLED LIQUID WITH

ABSORBENT AND INCINERATE. P REFERABLY, CLEAN UP CREW SHOULD WEAR FULL-FACE RESPIRATOR (PARTICULATE/ORGANIC VAPOR CARTIDGE).

Neutralizing Agent:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Handling and Storage =====

Handling and Storage Precautions:AVOID MECHANICAL OR ELECTRICAL ABUSE.

Other Precautions:BATTERIES MAY EXPLODE, PYROLIZE OR VENT IF DISASSEMBLED, CRUSHED, RECHARGED OR EXPOSED TO FIRE OR HIGH TEMPERATURE. DO NOT S HORT OR INSTALL WITH INCORRECT POLARITY.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:SCBA (FIRE); FULL-FACE RESPIRATOR WITH PARTICULATE/ORGANIC CARTIDGE (SPILL).

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

Protective Gloves:BUTYL.

Eye Protection:SAFTEY GLASSES.

Other Protective Equipment:NONE.

Work Hygienic Practices:NO DATA PROVIDED BY RESPONSIBLE PARTY.

Supplemental Safety and Health

NO DATA PROVIDED BY RESPO

NSIBLE PARTY.

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

HCC:Z6

Boiling Pt:=242.C, 467.6F

B.P. Text:PC

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

M.P/F.P Text:LI

Vapor Pres:0.03 (PC)

Vapor Density:3.1 DME

Spec Gravity:0.54 (LI)

Evaporation Rate & Reference:4.99 (DME)

Solubility in Water:MODERATE (PC)

Appearance and Odor:PC IS COLORLESS/ODORLESS LIQUID. MNO2/GRAPHITE ARE
BLACK POWDERS.

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

Stability Indicator/

Materials to Avoid:YES

NO DATA PROVIDED BY RESPONSIBLE PARTY.

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

Hazardous Decomposition Products:NO DATA PROVIDED BY RESPONSIBLE PARTY.

Conditions to Avoid Polymerization:HAZARDOUS POLYMERIZATION WILL NOT
OCCUR.

===== Toxicological Information =====

Toxicological Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Ecological Information =====

Ecological:NO

DATA PROVIDED BY RESPONSIBLE PARTY.

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

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH APPROPRIATE
REGULATIONS. OPEN CELLS SHOULD BE TREATED AS HAZARDOUS WASTE.

===== MSDS Transport Information =====

Transport Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Regulatory Information =====

SARA Title III Information:NO DATA PROVIDED BY RESPONSIBLE P

ARTY.
Federal Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.
State Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

===== Other Information =====

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