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MSDS

Common Name: DURACELL ALKALINE BATTERIES**Manufacturer:** GILLETTE**MSDS Revision Date:** 6/25/2004**Grainger Item Number(s):** 1ANB5, 1ANB6, 2HYH8, 2HYJ4, 2HYJ5, 2HYJ6, 2HYJ7, 2HYL1, 2HYL4, 2HYL5, 2HYL6, 2HYL7, 2HYL8, 2HYL9, 2UV23, 3VY95, 3VY96, 3VY97, 3VY98, 3VY99, 3WA10, 3WA11, 3WA12, 5LE26**Manufacturer Model Number(s):** MN1300R4Z, MN1400R4Z, MN1500B4Z, MN1500B8Z, MN1604B2Z, MN2400B4Z, MN2400B8Z, MX2500B2U**MSDS Table of Contents**

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GILLETTE ENVIRONMENT HEALTH AND SAFETY
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MATERIAL SAFETY DATA SHEET**NAME:** DURACELL ALKALINE BATTERIES**CAS NO:** NOT APPLICABLE**EFFECTIVE DATE:** 06/25/2004**REV:** 8**A. - IDENTIFICATION**

COMPOSITION* (1 % OR GREATER)	%
MANGANESE DIOXIDE (1313-13-9)	35-40
ZINC (7440-66-6)	10-25
POTASSIUM HYDROXIDE (35%) (1310-58-3)	5-10
GRAPHITE, NATURAL (7782-42-5) OR SYNTHETIC (7440-44-0)	1-5
FORMULA: MIXTURE	
MOLECULAR WEIGHT: NA	

SYNONYMS:

ALKALINE MANGANESE DIOXIDE BATTERIES MN1300 (D); MN1400 (C); MN1500 (AA)
MN2400 (AAA); MX1300 (D); MX1400 (C); MX1500 (AA); MX2400 (AAA); MX2500
(AAAA); MX1604 (9V); MN908 (LANTERN 6V); MN918 (LANTERN 4.5V); MN1604 (9V);
MN9100 (N), MN1203 (4.5V); 5K69 (FLATPACK); 7K67 (FLATPACK) (J) AND
BATTERIES COMPRISED OF THESE CELLS.

B. - PHYSICAL DATA top

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: COPPER TOP BATTERY. CONTENTS DARK IN COLOR.

FLASH POINT AND TEST METHOD(S): NA

0

FLAMMABLE LIMITS IN AIR (% BY VOLUME):

LOWER: NA %

UPPER: NA %

C. - REACTIVITY top

STABILITY:

(X) STABLE

() UNSTABLE

CONDITIONS TO AVOID:

DO NOT HEAT, CRUSH, DISASSEMBLE, SHORT CIRCUIT OR RECHARGE.

INCOMPATIBLE MATERIALS: CONTENTS INCOMPATIBLE WITH STRONG OXIDIZING AGENTS.

POLYMERIZATION:

() MAY OCCUR

(X) WILL NOT OCCUR

CONDITIONS TO AVOID: NOT APPLICABLE

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DEGRADATION MAY PRODUCE HAZARDOUS FUMES OF ZINC AND MANGANESE;
HYDROGEN GAS; CAUSTIC VAPORS OF POTASSIUM HYDROXIDE AND OTHER TOXIC
BY-PRODUCTS.

D. - HEALTH HAZARD DATA



OCCUPATIONAL EXPOSURE LIMITS (PELS, TLVS, ETC.):

8-HOUR TWAS:

MANGANESE DIOXIDE (AS Mn):

5 MG/M3 (CEILING) (OSHA)

0.2 MG/M3 (ACGIH/DURACELL)

POTASSIUM HYDROXIDE: 2 MG/M3 (CEILING) (ACGIH)

GRAPHITE (ALL KINDS EXCEPT FIBROUS):

2 MG/M3 (ACGIH)

(SYNTHETIC):

15 MG/M3 (TOTAL, OSHA)

5 MG/M3 (RESPIRABLE, OSHA)

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 TEMPERATURES OR IS MECHANICALLY, PHYSICALLY, OR ELECTRICALLY ABUSED.
CONTAINS CONCENTRATED (35%) POTASSIUM HYDROXIDE, WHICH IS CAUSTIC.
ANTICIPATED POTENTIAL LEAKAGE OF POTASSIUM HYDROXIDE IS 2 TO 20 ML, DEPENDING
ON BATTERY SIZE. A SIMILAR AMOUNT OF ZINC/ZINC OXIDE MAY ALSO LEAK.

1. INHALATION:

RESPIRATORY (AND EYE) IRRITATION MAY OCCUR IF FUMES ARE RELEASED DUE TO HEAT
OR AN ABUNDANCE OF LEAKING BATTERIES.

2. INGESTION:

NOT ANTICIPATED DUE TO SIZE OF BATTERIES; CHOKING MAY OCCUR WITH THE SMALLER
AAA AND AAAA BATTERIES. IRRITATION, INCLUDING CAUSTIC BURNS/INJURY, MAY OCCUR
FOLLOWING EXPOSURE TO A LEAKING BATTERY.

3. SKIN:

A. CONTACT:

IRRITATION, INCLUDING CAUSTIC BURNS/INJURY, MAY OCCUR FOLLOWING EXPOSURE TO
A LEAKING BATTERY.

B. ABSORPTION: NOT ANTICIPATED

4. EYE CONTACT:

IRRITATION, INCLUDING CAUSTIC BURNS/INJURY, 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: NOT APPLICABLE

3. DOT SHIPPING NAME: NOT APPLICABLE

PLEASE NOTE:

THESE BATTERIES ARE NOT REGULATED BY U.S. DOT OR INTERNATIONAL AGENCIES AS HAZARDOUS MATERIALS OR DANGEROUS GOODS WHEN SHIPPED. DURACELL USES THE ARTICLE NAME 'ALKALINE BATTERIES - NON-HAZARDOUS' ON ALL DOMESTIC AND INTERNATIONAL BILLS OF LADING.

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 NEOPRENE, RUBBER OR LATEX 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, PYROLIZE OR VENT IF DISASSEMBLED, CRUSHED, RECHARGED OR EXPOSED TO HIGH TEMPERATURES. INSTALL BATTERIES IN ACCORDANCE WITH EQUIPMENT INSTRUCTIONS. DO NOT MIX BATTERY SYSTEMS, SUCH AS ALKALINE AND ZINC CARBON, IN THE SAME EQUIPMENT. REPLACE ALL BATTERIES IN EQUIPMENT AT THE SAME TIME. DO NOT CARRY BATTERIES LOOSE IN POCKET OR BAG. DO NOT REMOVE BATTERY TESTER OR BATTERY LABEL.

NORMAL CLEAN UP: NOT APPLICABLE

WASTE DISPOSAL METHODS:

INDIVIDUAL CONSUMERS MAY DISPOSE OF SPENT (USED) BATTERIES WITH HOUSEHOLD TRASH. DURACELL DOES NOT RECOMMEND THAT SPENT BATTERIES BE ACCUMULATED (QUANTITIES OF FIVE GALLONS OR MORE SHOULD BE DISPOSED OF IN A SECURE LANDFILL), IN ACCORDANCE WITH APPROPRIATE 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. CAUSTIC POTASSIUM HYDROXIDE MAY BE RELEASED FROM LEAKING OR RUPTURED BATTERIES. AVOID EYE OR SKIN CONTACT AND INHALATION OF VAPORS. INCREASE VENTILATION. CLEAN-UP PERSONNEL SHOULD WEAR APPROPRIATE PROTECTIVE GEAR.

FIRE AND EXPLOSION HAZARD:

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

EXTINGUISHING MEDIA: AS APPROPRIATE FOR SURROUNDING AREA.

FIREFIGHTING PROCEDURES:

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 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) THE PRIMARY ACUTELY TOXIC INGREDIENT IS CONCENTRATED (35%) POTASSIUM HYDROXIDE.

2) ANTICIPATED POTENTIAL LEAKAGE OF POTASSIUM HYDROXIDE IS 2-20 ML, DEPENDING ON BATTERY SIZE.

3) THIS MSDS DOES NOT INCLUDE OR ADDRESS THE SMALL BUTTON CELL BATTERIES, WHICH CAN BE INGESTED.

THIS MSDS COVERS THE FOLLOWING DISCONTINUED PRODUCT NUMBERS:

DAC100, 105, 110, 116-118, 123-124, 130, 200, 610, 810, 820, 918

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.

FOOTNOTES:

NA=NOT AVAILABLE

PLEASE NOTE:

SOME DURACELL ALKALINE BATTERIES CONTAIN THE DURACELL POWER CHECK(TM) BATTERY ENERGY GAUGE WHICH IS A SMALL CONDUCTIVE STRIP LOCATED UNDERNEATH THE PVC BATTERY LABEL THAT INDICATES THE AMOUNT OF CHARGE IN THE BATTERY. IT IS COMPOSED OF MINUTE QUANTITIES OF CONDUCTIVE MATERIALS. DUE TO THE SMALL QUANTITY OF MATERIALS AND THEIR SOLID FORM, A HEALTH OR ENVIRONMENTAL RISK IS UNLIKELY.

MSDS-5 (2/00)

GMEL#: 2002.8