

**MATERIAL SAFETY DATA SHEET - ALKALINE BATTERIES**

Technote 35

Rev 04

22 April 2015

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STATEMENT OF HAZARDOUS NATURE

Not classified as hazardous according to Worksafe Australia criteria.

COMPANY DETAILS

Manufactured for:

Arlec Australia Pty Ltd (ACN 009 322 105)
Building 3, 31-41 Joseph St
Blackburn North Vic 3130
PO Box 1065
Blackburn North Vic 3130

IDENTIFICATION

Product Name: Alkaline Batteries

Manufacturer's Product Code:

Alkaline: APB series, BA series

UN Number: None allocated

Dangerous Goods Class and Subsidiary Risk: None

Hazchem Code: None

Poisons Schedule Number: None

Use: Energy source

Physical Description/Properties

Appearance: Various Standard Battery Sizes. Contents dark in colour.

Boiling Point/Melting Point: Not available **Flashpoint:** Not available

Vapour Pressure: Not available **Flammability Limits:** Not available

Specific Gravity: Not available **Solubility in Water:** Not applicable

Other Properties:**Ingredients*:**

Chemical Name:	CAS Number:	% :
Manganese Dioxide	1313-13-9	35-40
Zinc	7440-66-6	10-15
Potassium Hydroxide (35%)	1310-58-3	5-10
Graphite, natural or synthetic	7782-42-5 or 7440-44-0	1-5
Zinc Oxide	1314-13-2	<1

HEALTH HAZARD INFORMATION

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 1 to 3 ml, depending on battery size. A similar amount of zinc/zinc oxide may also leak.

Acute:

Swallowed: Not anticipated due to size of batteries; choking may occur with the smaller AAA battery. Irritation, including caustic burns/injury, may occur following exposure to a leaking battery.

Eye: Irritation, including caustic burns/injury, may occur following exposure to a leaking battery.

Skin: Irritation, including caustic burns/injury, may occur following exposure to a leaking battery.

Inhaled: Respiratory (and eye) irritation may occur if fumes are released due to heat or an abundance of leaking batteries.

Chronic: Not applicable to intact batteries.

First Aid

Swallowed: 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.

Eye: If battery is leaking and material contacts eyes, flush with copious amounts of clear, tepid water for 30 minutes. Contact physician at once.

Skin: 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.

Inhaled: If battery is leaking, contents may be irritating to respiratory passages. Remove to fresh air. Contact physician if irritation persists.

First Aid Facilities: Not applicable for normal consumer use. For warehouse/storage facilities have an eyewash and safety shower available in case batteries leak or rupture.

Advice to Doctor: The primary acutely toxic ingredient is concentrated (35%) potassium hydroxide. Anticipated potential leakage of potassium hydroxide is 1-3 ml, depending on battery size. This MSDS does not include or address the small button cell batteries, which can be ingested.

PRECAUTIONS FOR USE

Exposure Standards: 8-Hour TWA's:

Manganese Dioxide (as Mn) - 1 mg/m³ (dust and compounds, Australia); 5 mg/m³ (Ceiling) (OSHA); 0.2 mg/m³ (ACGIH)

Potassium Hydroxide - 2 mg/m³ (Peak Limitation) (Australia); (Ceiling) (ACGIH)

Graphite (all kinds except fibrous) - 3 mg/m³ (natural and synthetic) (respirable dust) (Australia); 2 mg/m³ (ACGIH, synthetic); 15 mg/m³ (total, OSHA); 5 mg/m³ (respirable, OSHA)

Zinc Oxide - 10 mg/m³ (dust and fume, Australia) (dust, ACGIH); 15 mg/m³ (dust total, OSHA); 5 mg/m³ (respirable, OSHA)

These levels are not anticipated under normal consumer use conditions.

Engineering Controls: General ventilation under normal use conditions.

Personal Protection: None under normal use conditions. Wear safety glasses and neoprene, rubber or latex gloves when handling leaking batteries.

Flammability: Not applicable

SAFE HANDLING INFORMATION

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.

Transport:

Alkaline batteries are subject to IATA Special Provision A123 when shipped as airfreight.

Alkaline batteries are not subject to hazardous or dangerous goods restrictions when shipped by road or rail.

Spills:

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 vapours. Increase ventilation. Clean-up personnel should wear appropriate protective gear. Remove spilled liquid with absorbent and contain for disposal.

Disposal:

Individual consumers may dispose of spent (used) batteries with household waste. Arlec does not recommend that spent batteries be accumulated (quantities of 0.02m³ or more should be disposed of in a secure landfill, in accordance with appropriate regulations). Do not incinerate, since batteries may explode at excessive temperatures.

SAFE HANDLING INFORMATION (CONTINUED)

Fire/Explosion Hazard: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapours of potassium hydroxide and other toxic by-products. Batteries may burst and release hazardous decomposition products when exposed to a fire situation. Use self-contained breathing apparatus and full protective gear.

OTHER INFORMATION:

CONTACT POINT: Australian Poisons Information Centre

24 hour service: -13 11 26

Police or Fire Brigade: -000 (exchange): -1100

New Zealand Poisons Information Centre

Dunedin: -(03)479 1200 (Normal hours)

-(03)474 0999 (Emergency)

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Date: 22-04-2015