



Arlec Australia Pty Ltd

TECHNOTE

MATERIAL SAFETY DATA SHEET - ALKALINE BATTERIES

Technote 35

Rev 06

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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.

1. Product and company identification

COMPANY DETAILS

Manufactured for:

Arlec Australia Pty Ltd (ACN 009 322 105)
Caribbean Park, 36 Lakeview Drive, Scoresby, Victoria 3179, Australia
Postal address: Post Office Box 2596, Rowville, Victoria 3178, Australia

Arlec New Zealand Ltd (NZBN: 9429030738294)
Flex2 (Units A and B) 28a Verissimo Drive, Mangere, 2022 Auckland, New Zealand.
Postal address: PO BOX 706036, MANUKAU, Auckland 2241

IDENTIFICATION

Product Name: Alkaline Batteries

Manufacturer's Product Code:

Alkaline: APB series, BA series, BBA series

UN Number: None allocated

Dangerous Goods Class and Subsidiary Risk: None

Hazchem Code: None

Poisons Schedule Number: None

Use: Energy source

2. Hazard(s) identification

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.

3. Composition and information on ingredients

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

4. First-aid measures

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.

5. Fire-fighting measures

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture. Fire fighters should wear self-contained breathing apparatus

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.

6. Spillage, accidental release measures

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 (eye protection and gloves). Remove spilled liquid with absorbent and contain for disposal.

7. Handling and storage

SAFE HANDLING INFORMATION

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. 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.

8. Exposure controls and personal protection

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

9. Physical and chemical properties

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

10. Stability and reactivity

The batteries are stable under normal operating conditions.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: NA

Decomposition temperature: When heated above 150 °C the risk of rupture occurs.

Conditions to avoid: Electrical shorting, heat, open flames, sparks, and moisture.

11. Toxicological information

Under normal conditions of use, alkaline batteries are non-toxic

12. Ecological information

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles. Alkaline cylindrical cells belong to the category of mercury-free battery (mercury content lower than 0.0001 %).

13. Disposal considerations

Disposal:

Disposal should be in accordance with national and local regulation.

It is highly recommended that Alkaline Batteries be disposed of through a recycling collection centre.

Do not dispose of with general household waste.

Do not incinerate

14. Transport information

Transport:

These are "batteries, dry" and are not considered to be a "hazardous material" per the Dept. of Transportation (USDOT) regulations or "dangerous goods" per the International Air Transport Association (IATA) regulations. Shipments must comply with the general duty clause of USDOT 49 CFR 172.102 (a) (1) special provision 130, "to prevent shorting potential while transporting." Alkaline batteries are not subject to hazardous or dangerous goods restrictions when shipped by road or rail.

15. Regulatory information

Poisons Schedule Number: Nil

Not classified as hazardous according to Worksafe Australia criteria.

Australian Workplace Labelling: None required as the product is classed as articles and are subsequently exempt from the labelling requirements.

16. Other information.

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)