



PAK KO BATTERIES FACTORY LIMITED

Unit 11, 9/F., Block A, Hoi Luen Ind. Ctr., No. 55 Hoi Yuen Rd., Kwun Tong, Kln., H.K.
Tel.: (852) 2345-5245 Fax.: (852) 2797-9591 E-mail: pakko@pakkobatteries.com
<http://www.pakkobatteries.com>

SAFETY DATA SHEET

PRODUCT NAME: Mercury Free Carbon Zinc Battery Series

Model No: R6 R03 R14 R20 6F22

Volts: 1.5 / cell

Document Number: PAKKO2017Rseries

Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation.

SECTION 1 - MANUFACTURER INFORMATION

Pak Ko Batteries Factory Limited
Unit 11, 9/F., Block A, Hoi Luen Industrial Centre,
No.55, Hoi Yuen Road, Kwun Tong, Kowloon,
Hong Kong.

Telephone Number for Information: 852-23455245

Date Prepared: June 2017

SECTION 2 - HAZARDS IDENTIFICATION

GHS Classification: N/A

Signal Word: N/A

Hazard Classification: N/A

Under normal conditions of use, the battery is hermetically sealed.

Ingestion: Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract.

Inhalation: Contents of an open battery can cause respiratory irritation.

Skin Contact: Contents of an open battery can cause skin irritation and/or chemical burns.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns.

SECTION 3 - INGREDIENTS

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Carbon Black (CAS# 1333-86-4)	3.5 mg/m ³ TWA (as carbon black)	3.5 mg/m ³ TWA (as carbon black)	5
Manganese Dioxide (CAS# 1313-13-9)	5 mg/m ³ Ceiling (as Mn)	0.2 mg/m ³ TWA (as Mn)	31
Ammonium Chloride (CAS# 12125-02-9)	None established	10 mg/m ³ TWA (fume) 20 mg/m ³ STEL (fume)	1



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Zinc (CAS# 7440-66-6)	15 mg/m ³ TWA Particulates not otherwise regulated (total dust) 5 mg/m ³ TWA Particulates not otherwise regulated (respirable fraction)	10 mg/m ³ TWA Particulates not otherwise classified (inhalable particulate) 3 mg/m ³ TWA Particulates not otherwise classified (respirable particulate)	33
Zinc Chloride (CAS# 7646-85-7)	1 mg/m ³ TWA (fume)	1 mg/m ³ TWA (fume) 2 mg/m ³ STEL (fume)	6
Iron (CAS# 7439-89-6)	None established	None established	24

SECTION 4 – FIRST AID MEASURES

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately.

Inhalation: Provide fresh air and seek medical attention.

Skin Contact: Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

SECTION 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.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

To cleanup leaking batteries:

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries.

Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.

Battery materials should be collected in a leak-proof container.

SECTION 7 - HANDLING AND STORAGE

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

If soldering or welding to the battery is required, consult your battery manufacturer representative for proper precautions to prevent seal damage or short circuit.

Charging: This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

WARNING: do not install backwards, charge, put in fire, or mix with other battery types. May explode or leak causing injury. **Replace all batteries at the same time.**



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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Requirements: Not necessary under normal conditions.

Respiratory Protection: Not necessary under normal conditions.

Eye Protection: Not necessary under normal conditions.

Gloves: Not necessary under normal conditions.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Solid object
Upper Explosive Limits:	Not applicable for an Article
Lower Explosive Limits	Not applicable for an Article
Odor	No odor
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Odor Threshold	No odor
Vapor Density (Air = 1)	Not applicable for an Article
pH	Not applicable for an Article
Density (g/cm ³)	2.0-3.0
Melting point/Freezing Point	Not applicable for an Article
Solubility in Water (% by weight)	Not applicable for an Article
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Flash Point	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Flammability	Not applicable for an Article
Partition Coefficient	Not applicable for an Article
Auto-ignition Temperature	Not applicable for an Article
Decomposition Temperature	Not applicable for an Article



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Viscosity

Not applicable for an Article

SECTION 10 – STABILITY AND REACTIVITY

Zinc manganese dioxide batteries do not meet any of the criteria established in 40 CFR 261.2 for reactivity.

SECTION 11 – TOXICOLOGICAL INFORMATION

Under normal conditions of use, zinc manganese dioxide batteries are non-toxic.

SECTION 12 – ECOLOGICAL INFORMATION

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling

SECTION 14 – TRANSPORT INFORMATION

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in “strong outer packaging” that prevents spillage of contents. All original packaging for zinc manganese dioxide batteries has been designed to be compliant with these regulatory concerns.

Zinc manganese dioxide batteries (sometimes referred to as “Dry cell” batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

All zinc manganese dioxide batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words “not restricted” and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.



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SECTION 15 - REGULATORY INFORMATION

Zinc manganese dioxide batteries are not classified as dangerous goods by the US Department of Transportation or the major international regulatory bodies and are therefore not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

SECTION 16 - OTHER INFORMATION

None.

GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 00

Date of prepared: 26 May 2015

Section I – Product and Company Identification

Information of Product

Product Identity (used on the label)	Cylindrical Alkaline Battery – LR20, LR14, LR6, LR03
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Information of Manufacturer

Manufacturer's Name

GPI International Ltd.

Emergency Telephone Number

Within USA & Canada call: +1-800-424-9300

Outside USA and Canada call: +1-703-527-3887

Address (Number, Street, City State, and ZIP Code)

8/F GP Building, 30 Kwai Wing Road, Kwai Chung, N.T.,
Hong Kong

Telephone Number for Information

+852-24843333

Date of prepared and revised

26th May 2015

Recommended use of chemicals:

N.A.

Section II – Hazards Identification

Hazards identifications

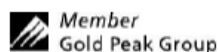
General advice: The common known rules for handling of chemicals should be obeyed. These chemicals are contained in a sealed steel can. For consumer use, adequate hazard warnings are printed on both the package and the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperatures or is mechanically or electrically abused. Concentrated potassium hydroxide contained is caustic. Anticipated potential leakage of potassium hydroxide is 2-20 ml, depending on battery size. Do not eat and drink batteries. Keep batteries away from small children.

Physical-Chemical Hazards: This preparation is not classified as dangerous according to the criteria of directive 99/45/EEC.

Hazards to man: If battery leaking, exposure to caustic ingredients may occur. Therefore, may cause sensitization by skin contract.

Hazards to environment: N.A.

Remark: "N.A." is indicated if not applicable.



Manufacturer reserves the right to alter or amend the design, model and specification without prior notice.

GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 00

Date of prepared: 26 May 2015

Section III – Composition/Information on Ingredients

Chemical Nature: Alkaline zinc-manganese dioxide batteries

Ingredient	CAS No.	Approximate %/wt			
		LR03	LR6	LR14	LR20
Manganese Dioxide (MnO ₂)	1313-13-9	40.9	42.6	40.6	41.8
Zinc (Zn)	7440-66-6	14.8	16.1	16.0	17.4
Water (H ₂ O)	7732-18-5	11.7	12.2	11.0	11.1
Potassium Hydroxide (KOH)	1310-58-3	4.8	5.2	7.0	7.0
Graphite	7782-42-5	1.7	3.0	3.2	3.4
Brass	12597-71-6	3.0	2.4	1.2	0.8
Steel	7439-89-6	20.4	15.7	18.6	16.3
Ni-plating	7440-02-0	0.3	0.3	0.2	0.2
Nylon-66	None	1.5	1.6	1.6	1.4
Fiber	None	0.9	0.9	0.6	0.6
Mercury (Hg)	7439-97-6	<0.0001	<0.0001	<0.0001	<0.0001
Lead (Pb)	7439-92-1	<0.0030	<0.0030	<0.0030	<0.0030
Cadmium (Cd)	7440-43-9	<0.0003	<0.0003	<0.0003	<0.0003
Arsenic (As)	7440-38-2	<0.0001	<0.0001	<0.0001	<0.0001

Section IV – First-aid Measures

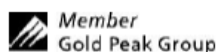
Inhalation: In case of excessive inhalation due to leaking batteries remove to fresh air. Obtain medical advice.

Skin Contact: If exposed to a leaking battery, remove contaminated clothing. Wash exposed areas with plenty of water and soap. If irritation occurs, consult a physician.

Eye contact: If a battery is leaking and materials contact eyes, flush immediately with running water for at least 15 minutes. Consult an ophthalmologist at once.

Ingestion: Not anticipated due to size of batteries. Choking may occur with the smaller size batteries. If exposed to a leaking battery, rinse mouth and surrounding areas with running water for at least 15 minutes. Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.

Remark: "N.A." is indicated if not applicable.



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Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 00

Date of prepared: 26 May 2015

Section V – Fire-fighting Measures

Suitable extinguishing media: Carbon dioxide (CO₂), foam, dry chemical powder.

Extinguishing media not to be used: Never use a direct water jet.

Exposure hazards from combustion products: In case of fire, carbon dioxide, carbon monoxide and other toxic organic substances will be generated. Do not inhale fumes and smoke.

Personal protective equipments: Wear full protective clothing. Use self-contained breathing apparatus.

Section VI – Accidental Release Measures

Personal precautions: 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 the ventilation. Wear protective clothing. Keep unprotected persons away.

Environmental precautions: Avoid discharge and penetration into sewerage systems, waterways, pits, and cellars.

Methods for cleaning up: Collect spilled material with an insert standard absorbent like sand or silica. Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

Section VII – Handling and Storage

General handling:

Obey the common known rules and precautions for handling with chemicals. Avoid mechanical and electrical abuse. Do not short battery or install incorrectly. Batteries may explode, pyrolize or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries according to equipment instructions. Do not mix battery systems, such as alkaline and zinc- carbon. Replace all batteries in equipment at the same time. Do not carry batteries loose in pocket or bag. Do not remove battery labels.

Storage:

Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity. Storage at room temperature.

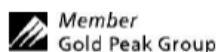
Section VIII – Exposure Controls/Personal Protection

Exposition/Technical measures: Atmospheric vapour concentrations must be minimized by adequate ventilation.

Protection of hands, eyes and skin: None required under normal use conditions. When handling leaking batteries, use neoprene, rubber or nitrile gloves and wear safety glasses to protect hands, eyes and skin.

General safety and hygiene measures: Use only as directed.

Remark: "N.A." is indicated if not applicable.



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GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 00

Date of prepared: 26 May 2015

Section IX – Physical and Chemical Properties

Physical state: Stainless steel top battery Colour: Contents dark and gray in colour

Odour: N.A.

Melting point: N.A.

Boiling point: N.A.

Flash point: N.A.

Explosion limit: Not available

Ignition temperature: Not available

Vapour pressure: Not available

Specific gravity: N.A.

Solubility in water: N.A.

Solubility in other solvents: N.A.

PH value: Not available

Partition coefficient: Not available

Viscosity: Not available

Section X – Stability and Reactivity

Thermal decomposition: Batteries may burst and release hazardous decomposition products when exposed to fire.

Substances to avoid: Strong oxidation agents.

Hazardous reactions: Contents incompatible with strong oxidizing agents.

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.

Section XI – Toxicological Information

Toxicity information is available on the battery ingredients noted in Section III, but in general, N.A. to intact batteries

Chronic health effects: N.A.

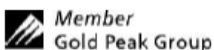
Section XII – Ecological Information

Not available.

Section XIII – Disposal Considerations

Product: Dispose in accordance with appropriate regulations. If in doubt, contact your local government office concerned for information. Do not incinerate, since batteries may explode at excessive temperatures.

Remark: "N.A." is indicated if not applicable.



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GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 00

Date of prepared: 26 May 2015

Section XIV – Transport Information

Road (ADR/RID): Not regulated

Air (ICAO/IATA):

IATA DGR (55th) : Special Provision A123: "Examples of such batteries are: alkali-manganese, zinc-carbon, nickel-metal hydride and nickel-cadmium batteries. Any electrical battery ... having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals...) is forbidden from transport; and (b) accidental activation. The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued."

Sea (IMDG):

IMDG CODE: Special Provision 304 which says: "Batteries, dry, containing corrosive electrolyte which will not flow out of the battery if the battery case is cracked are not subject to the provisions of this Code provided the batteries are securely packed and protected against short-circuits. Examples of such batteries are: alkaline-manganese, zinc-carbon, nickel metal hydride and nickel-cadmium batteries"

These batteries are not regulated by international agencies as hazardous materials or dangerous goods when shipped. A shipping name of "Alkaline Batteries – Non-hazardous" may be used on all domestic and international bills of lading.

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for GP alkaline batteries has been designed to be compliant with these regulatory concerns.

Section XV – Regulatory Information

Symbol: N.A.

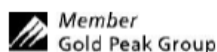
EC labeling: None

Risk phrases: None

Safety phrases: None

Labeling is not required because cylindrical alkaline batteries are classified as "articles" under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.

Remark: "N.A." is indicated if not applicable.



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GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

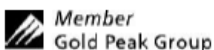
Revision: 00

Date of prepared: 26 May 2015

Section XVI – Other Information

The information on this Safety Data Sheet (SDS) was obtained from current and reputable sources. However, the data is provided without any warranty; expressed or implied, regarding its correctness or accuracy. It is the user's responsibility to assume liability on loss, injury, damage, or expense resulting from improper use of this product. Any previous MSDS of this product mentioned above are hereby replaced with this new document. We urge you to make this information available as appropriate in your organization and to any others with whom you arrange to handle this product.

Remark: "N.A." is indicated if not applicable.



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Product Information Sheet

Panasonic Batteries

Panasonic Industrial Devices Sales Company of America
A Division Panasonic Corporation of North America
1701 Golf Road Suite 3-1100
Rolling Meadows, IL 60008
Toll Free: 877-726-2228
Fax: 847-468-5750
Internet: na.industrial.panasonic.com/products/batteries
e-mail: ombatteries@us.panasonic.com

Product: Alkaline Batteries

Applicable models/sizes: All Cylindrical and 9-Volt

Revision: January 1, 2020

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

SDS

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard; hence a SDS is not required.

The following components are found in a Panasonic Alkaline battery:

Component	Material	Formula	CAS #
Positive Electrode	Manganese Dioxide	MnO ₂	1313-13-9
	Graphite	C	7782-42-5
Negative Electrode	Zinc	Zn	7440-66-6
Electrolyte	Potassium Hydroxide	KOH	1310-58-3

Disposal

All Panasonic Alkaline batteries are manufactured with "no added mercury" and are classified by the federal government as a non-hazardous waste and are safe for disposal in the normal municipal waste stream. Exception: California, which as of February 8, 2006 requires disposal of these batteries in accordance with the California Universal Waste Rules. Check local your area for any recycling options.

Transportation

Alkaline batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under the International Civil Aviation Organization (ICAO), 2019-2020 edition, International Air Transport Association (IATA), 61st edition and U.S. Department of Transportation (DOT) regulations, 49 CFR. These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following Special Provisions; Special Provision A123 in the ICAO Technical Instructions and IATA Dangerous Goods Regulations and Special Provision 130 of the DOT. These regulations require these batteries to be packed in such a way to prevent short circuits or generation of a dangerous quantity of heat. In addition, the ICAO and IATA regulations require the words "Not Restricted" and "Special Provision A123" be provided on the air waybill, when an air waybill

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Industrial Company makes no warranty expressed or implied.

is issued. By ocean the International Maritime Organization (IMO), 2018 edition, 39th Amendment, does not regulate these batteries.

First Aid

If you get electrolyte in your eyes, flush with water for 15 minutes without rubbing and immediately contact a physician. If you get electrolyte on your skin wash the area immediately with soap and water. If irritation continues, contact a physician. If a battery is ingested, call the Rocky Mountain Poison and Drug Center at 800-498-8666 for the US and Canada or 303-389-1300 internationally or your local poison center immediately.

General Recommendations

CAUTION: May explode or leak if recharged, inserted improperly, mixed with different battery types or disposed of in fire. Do not open battery.

Fire Safety

In case of fire, you can use any Class of fire extinguisher. Cooling the exterior of the batteries will help prevent rupturing. Fire fighters should use self-contained breathing apparatus.

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Industrial Company makes no warranty expressed or implied.

Article Information Sheet (AIS)

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and others users requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro-technical devices. The design, safety, manufacture, and qualification of branded consumer batteries follow ANSI and IEC battery standards. This document is based on principles set forth in the following hazard communication approaches: ANSI Z-400.1, GHS, JAMP AIS, and IEC 62474.

1. Document Information					
Document Name	Duracell Alkaline Batteries (Major and Specialty Cells)				
Document ID	AIS-ALK				
Issue Date	1-May-15				
Version	1				
Preparer	Global Product Stewardship				
Last Revision	New				
Information Contact	moquet.l@pg.com				
2. Company Information					
Name & Address	P&G Duracell Global Business Unit, 14 Research Drive, Bethel, CT USA 06801				
Telephone	(203) 796- 4430				
Website	www.duracell.com				
Consumer Relations	North America: 1-800-551-2355 (9:00 AM - 5:00 PM EST)				
3. Article Information					
Description	Duracell branded consumer alkaline battery				
Product Category	Electro-technical device				
Use	Portable power source for electronic devices				
Global sub-brands (Retail)	Coppertop, Plus, Quantum, Simply, Turbo, Ultra, Basic, TurboMax				
Global sub-brands (B2B)	Procell, Industrial, OEM/OEA				
Sizes	Major Cells: AA,AAA, C, D & 9V				
Sizes	Specialty Cells: AAAA, MN11. MN21, MN27, MN175, PX76 (LR44), PX28, PX625, (LR09), LR43, LR54, N, J, 4.5V, 625A				
Sizes	Lanterns: MN903, MN908, MN915, MN918; MN1203				
Principles of Operation	A battery powers a device by converting stored chemical energy into electrical energy.				
Representative Product Images	   				
	Maior Cells		Maior Cells	Lantern	Specialty
4. Article Construction					
Applicable Battery Industry Standards	ANSI C18.1M Part 1, ANSI C18.1M Part 2, ANSI C18.4, IEC 60086,1, IEC 60086-2, IEC 60086-5				
Electro-technical System	Alkaline Manganese Dioxide				
Electrode - Negative	Zinc (CAS # 7440-66-6)				
Electrode - Positive	Manganese Dioxide (CAS # 1313-13-9)				
Electrolyte	Alkali Metal Hydroxide (aqueous potassium hydroxide - CAS # 1310-58-3)				
Materials of Construction - Can	Nickel Plated Steel				
Declarable Substances (IEC 62474 Criteria 1)	None				
Mercury Free Battery (ANSI C18.4M <50ppm)	Yes				
Small Cell or Battery (ANSI C18.1M Part 2; IEC 60086-5)	Sizes: AAA and Specialty Cells fit inside a specially designed test cylinder 2.25 inches (57.1mm) long by 1.25 inches (31.70 mm) wide.				
5. Health & Safety					

Article Information Sheet (AIS)

Ingestion/Small Parts Warning	<u>Required for Small Cell or Battery (Sizes: AAA and Specialty Cells):</u> Keep away from children. If swallowed, consult a physician immediately.
Normal Conditions of Use	Exposure to contents inside the sealed battery will not occur unless the battery leaks, is exposed to high temperatures, or is mechanically abused.
Note to Physician	A damaged battery will release concentrated and caustic potassium hydroxide.
First Aid - If swallowed	Do not induce vomiting. Seek medical attention immediately. USA CALLS ONLY - CALL 24-HOUR NATIONAL BATTERY INGESTION HOTLINE: (202) 625-3333 - COLLECT.
First Aid - Eye Contact	Flush with water for at least 15 minutes. Seek medical care if irritation persists.
First Aid - Skin Contact	Remove contaminated clothing. Wash skin with soap and water. Seek medical care if irritation persists.
First Aid - Inhalation	Remove to fresh air.
Battery Safety Standards & Testing	<p>Duracell batteries meet the requirements of ANSI C18. 1M Part 2 and IEC 60086-5. These standards specify tests and requirements for alkaline batteries to ensure safe operation under normal use and reasonably foreseeable misuse. The test regimes assess three conditions of safety. These are:</p> <p><u>1-Intended use simulation:</u> Partial use, vibration, thermal shock, and mechanical shock</p> <p><u>2-Reasonably foreseeable misuse:</u> Incorrect installation, external short-circuit, free fall (user-drop), over-discharge, and crush</p> <p><u>3-Design consideration:</u> Thermal abuse, mold stress</p>
Precautionary Statements	<p>CAUTION: Batteries may explode or leak, and cause burn injury, if recharged, disposed of in fire, mixed with a different battery type, inserted backwards or disassembled. Replace all used batteries at the same time. Do not carry batteries loose in your pocket or purse. Do not remove the battery label. Keep small batteries (i.e., AAA) away from children. If swallowed, consult a physician at once.</p>
6. Fire Hazard & Firefighting	
Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area.
Fires Involving Large Quantities of Batteries	Large quantities of batteries involved in a fire will rupture and release caustic potassium hydroxide. Firefighters should wear self-contained breathing apparatus and protective clothing.
7. Handling & Storage	
Handling Precautions	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.
Storage Precautions	Store batteries in a dry place at normal room temperature. Refrigeration does not make them last longer.
Spills of Large Quantities of Loose Batteries (unpackaged)	Notify spill personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. Evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate PPE to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.
8. Disposal Considerations (GHS Section 13)	
Collection & Proper Disposal	Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.

Article Information Sheet (AIS)

USA EPA RCRA (40 CFR 261)	Classified as non-hazardous waste (not ignitable, corrosive, reactive or toxic). Federal Universal Waste Regulations (40 CFR 273) do not apply. State requirements may be more stringent than Federal.
California Universal Waste Rule (Cal. Code Regs. Title 22, Div. 4.5, Ch. 23)	California prohibits disposal of batteries as trash (including household trash).
9. Transport Information (GHS Section 14)	
Regulatory Status	Not regulated. Alkaline batteries (sometimes referred to as "Dry Cell" or "household" batteries) are not listed or regulated as dangerous goods under IATA Dangerous Goods Regulations, ICAO Technical Instructions, IMDG Code, UN Model Regulations, U.S. Hazardous Materials Regulations (49 CFR), and UNECE ADR.
UN Identification Number/Shipping Name	None - Not Required
Special Provision (SP) Conformance	Special regulatory provisions require batteries to be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits. Shippers can prepare batteries by taping the terminals, individually packaging batteries, or otherwise segregating the batteries to prevent risk of creating a short circuit. Batteries shipped in original unopened Duracell packaging is compliant.
US DOT SP	49 CFR 172.102 Special Provision 130
Air Transport (IATA/ICAO) SP	Special Provision A123 (56th Edition - 2015). NOTE: The words "NOT RESTRICTED" and "SPECIAL PROVISION A123" must be included on the description of the substance on the Air Waybill, when air way-bill is issued.
Passenger Air Travel	No restrictions
Emergency Transportation Hotline	CHEMTREC 24-Hour Emergency Response Hotline Within the United States call +703-527-3887 Outside the United States, call +1 703-527-3887 (Collect)
10. Regulatory Information (GHS Section 15)	
10a. Battery Requirements	
USA EPA Mercury Containing & Rechargeable Battery Management Act of 1996	During the manufacturing process, no mercury is added.
EU Battery Directive 2006/66/EC & amendment 2013/56/EU	Compliant with marking and substance restrictions for mercury (<0.0005%); cadmium (<0.0020%) and lead (<0.0040%). Global labels are marked with the special collection symbol and the EU qualifier in accordance with EU Battery Directive 2006/66/EC, Article 11. Paragraph 1 on batteries and accumulators and waste batteries and accumulators
10b. General Requirements	
USA CPSIA 2008 (PL. 11900314)	Exempt
USA CPSC FHSA (16 CFR 1500)	Consumer batteries are not listed as a hazardous product.
USA EPA TSCA Section 13 (40 CFR 707.20)	For customs clearance purpose, batteries are defined as an "Article".
USA EPA RCRA (40 CFR 261)	Classified as non-hazardous waste (not ignitable, corrosive, reactive or toxic). Federal Universal Waste Regulations (40 CFR 273) do not apply. State requirements may be more stringent than Federal.
California Prop 65	No warning required per 3rd party assessment.
CANADA Products Containing Mercury Regulations SOR/20140254	Mercury free
EU REACH SVHC's (161 Substances) Candidate List December 2014)	No listed substances are present (>0.01% w/w)
EU REACH Article 31	SDS is not required consumer alkaline batteries.

Article Information Sheet (AIS)

10c. Regulatory Definitions - Articles

USA OSHA	29 CFR 1910.1200(b)(6)(v)
USA TSCA	40 CFR 704.3; 710.2(3)(c); and [19 CFR 12.1209a]]
EU REACH	Title 1 - Chapter 2 - Article 3(3)
GHS	Section 1.3.2.1

11. Other Information

11a. Certification & 3rd Party Approvals

UL (UTGT2.S50939 Single Multiple Station Smoke Alarms - Component)	AA, 9V Certification Standard: ANSI/UL 217 Single & Multiple Station Smoke Alarms
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11b. AIS Hazard Communication Approaches (consulted in developing this document):

Globally Harmonized System (GHS)	GHS SDS requirements and classification criteria do not apply to articles or products (such as batteries) that have a fixed shape, which are not intended to release a chemical. The article exemption is found in Section 1.3.2.1.1 of the GHS and reads: <i>The GHS applies to pure substances and their dilute solutions and to mixtures. "Articles" as defined by the Hazard Communication Standard (29 CFR 1900.1200) of the OSHA of the USA, or by similar definition, are outside the scope of the system."</i>
Joint Article Management Promotion Consortium JAMP	JAMP is a Japanese Industry Association who developed the concept of an Article Information Sheet as a supply chain tool to share and communicate chemical information in articles. The AIS authoring process is based on "declarable" substances to meet global regulatory requirements as well as substances to be reported by GADSL, JIG, etc.
IEC 62474 Ed. 1.0 B:2012 Material Declaration for Products of and for the Electro-technical Industry	An international standard that came into effect in March 2012 concerning declaration for electrical and electronic products. IEC 6274 replaces the defunct Joint Industry Guide – Material Declaration for Electro-technical Products (JIG-101-Ed 4.1 (May 21, 2012)
IEC 62474 Database - Publically available online (maintained by TC11: Environmental Standardization for electrical and electronic products and systems.	The general principle for a substance to be included in the database as a declarable substance is: 1) existing national laws or regulations in an IEC member country that are relevant to Electro-technical products and that prohibit or restrict substances, or that have a labeling, communication, reporting or notification requirement, and 2) applying IEC 62474 criteria results in identification of declarable substance.
ANSI Z 400.1/Z19.1 (2010)	2.1 Scope: Applies to preparation of SDSs for hazardous chemicals used under occupational conditions. Does not address how the standard may be applied to articles. It presents basic information on how to develop and write a SDS. Additional information is provided to help comply with state and federal environmental and safety laws and regulations. Elements of the standard may be acceptable for International use.

DISCLAIMER: This AIS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. Procter & Gamble assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the product.