

GP Batteries

Safety Data Sheet for Cylindrical Alkaline Battery

Document Number: SDS100

Revision: 04

Date of prepared: 17 Sep 2019

Section I – Product and Company Identification

Information of Product

Product Identity (used on the label)	Cylindrical Alkaline Battery
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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)

7/F, Building 16W, 16 Science Park West Avenue

Hong Kong Science Park, New Territories, Hong Kong

Telephone Number for Information

+852-24843333

Date of prepared and revised

17 September, 2019

Recommended use of chemicals:

N.A.

Section II – Hazards Identification

Hazards identifications

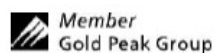
General advice: The common known rules for handling of chemicals should be obeyed. These chemicals are contained in a sealed steel can. For consumer use, adequate hazard warnings are printed on both the package and the battery. Potential for exposure should not exist unless the battery leaks, is exposed 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 contact.

Hazards to environment: N.A.

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



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Section III – Composition/Information on Ingredients

Chemical Nature: Alkaline zinc-manganese dioxide batteries

Ingredient	CAS No.	%/wt
Manganese Dioxide (MnO ₂)	1313-13-9	40.6 ~ 42.6
Zinc (Zn)	7440-66-6	14.8 ~ 17.4
Water (H ₂ O)	7732-18-5	11.0 ~ 12.2
Potassium Hydroxide (KOH)	1310-58-3	4.8 ~ 7.0
Graphite	7782-42-5	1.7 ~ 3.4
Brass	12597-71-6	0.8 ~ 3.0
Steel	12597-69-2	15.7 ~ 20.4
Ni-plating	7440-02-0	0.2 ~ 0.3
Nylon-66	32131-17-2	1.4 ~ 1.6
Polyvinyl Alcohol Fiber (PVA)	9002-89-5	0.6 ~ 0.9
Mercury (Hg)	7439-97-6	<0.0001
Lead (Pb)	7439-92-1	<0.0030
Cadmium (Cd)	7440-43-9	<0.0003
Arsenic (As)	7440-38-2	<0.0001

Section IV – First-aid Measures

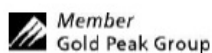
Inhalation: In case of excessive inhalation due to leaking batteries remove to fresh air. Obtain medical advice.

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

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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.

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 inert 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, pyrolyze 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.

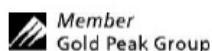
Section VIII – Exposure Controls/Personal Protection

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.

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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.

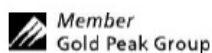
Section XII – Ecological Information

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.

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Section XIV – Transport Information

Road (ADR/RID): Not regulated

Air (ICAO/IATA):

IATA DGR : 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.

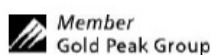
EC labeling: None

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.

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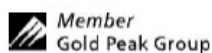
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Section XVI – Other Information

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.

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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	
	<div style="display: flex; justify-content: space-around; text-align: center;"> <div>Major Cells</div> <div>Major Cells</div> <div>Lantern</div> <div>Specialty</div> </div>
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 <500m)	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	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: <u>1-Intended use simulation:</u> Partial use, vibration, thermal shock, and mechanical shock <u>2-Reasonably foreseeable misuse:</u> Incorrect installation, external short-circuit, free fall (user-drop), over-discharge, and crush <u>3-Design consideration:</u> Thermal abuse, mold stress
Precautionary Statements	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.
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.

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