

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 | | | |
| Preparer | Product Safety & Regulatory | | | |
| Last Revision | 7/22/2016 | | | |
| Information Contact | moquet.l@duracell.com | | | |
| 2. Company Information | | | | |
| Name & Address | Duracell US Operations, Inc., 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 | | | |
| Major Cells - Sizes/Part Numbers | (AA) MN/MX 1500; (AAA) MN/MX 2400; (AAAA) MN/MX 2500; (C) MN/MX 1400; (D) MN/MX 1300; (9V) MN/MX1604 | | | |
| Specialty Cells - Sizes/Part Numbers | MN11, MN21, MN27, MN175, PX76 (LR44), PX28, PX625, (LR09), LR43, LR54, N, J, 4.5V, 625A | | | |
| Lanterns - Part Numbers | MN903, MN908, MN915, MN918; MN1203 | | | |
| Principles of Operation | A battery powers a device by converting stored chemical energy into electrical energy. | | | |
| Representative Product Images |  | | | |
| | Major Cells | Major 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); 10-25% | | | |
| Electrode - Positive | Manganese Dioxide (CAS # 1313-13-9); 35-40% | | | |
| Electrolyte | Alkali Metal Hydroxide (aqueous potassium hydroxide - CAS # 1310-58-3); 5-10% | | | |
| Materials of Construction - Can | Nickel Plated Steel | | | |
| Declarable Substances (IEC 62474 Criteria 1) | None | | | |
| Mercury Free Battery (ANSI C18.4M <5ppm) | 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. | | | |

Article Information Sheet (AIS)

Formerly known as MSDS/PSDS document for Shippers

| 5. Health & Safety | |
|--|--|
| 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)
Formerly known as MSDS/PSDS document for Shippers

| | |
|--|---|
| 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 (57th Edition - 2016). 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. |
| International Maritime Dangerous Goods (IMDG) | Not regulated/No requirements |
| 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 (Annex II). |
| P.R.C. Provision on Mercury Content Limitation for Batteries (GB 8897.5-2005, MOD, Section 9.1(e)) |  |
| P.R.C Mercury Free Battery (GB 24427-2009) < 1 ppm | Yes |
| 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. |

Article Information Sheet (AIS)

Formerly known as MSDS/PSDS document for Shippers

| | |
|---|---|
| California Prop 65 | No warning required per 3rd party assessment. |
| CANADA Products Containing Mercury Regulations SOR/20140254 | Mercury free |
| EU REACH SVHC's (169 Substances) Candidate List June 2016) | No listed substances are present (>0.01% w/w) |
| EU REACH Article 31 | SDS is not required consumer alkaline batteries. |
| 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 |
| 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. |
| <p>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 Duracell 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. Duracell assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the product.</p> | |

Product Information Sheet

Panasonic Batteries 400032
Panasonic Industrial Company
A Division of Panasonic Corporation of North America
5201 Tollview Drive, 1F-3
Rolling Meadows, IL 60008
Toll Free: 877-726-2228
Fax: 847-468-5750
Internet: www.panasonic.com/batteries
e-mail: oembatteries@us.panasonic.com

Product: Alkaline Batteries
Applicable models/sizes: All Cylindrical and 9-Volt
Revision: October 1, 2008

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.

MSDS

Material Safety Data Sheets (MSDS) 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 MSDS 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 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 local regulations for proper disposal.

Transportation

Panasonic Alkaline batteries are considered to be "dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), International Air Transport Association (IATA) and the International Maritime Organization (IMO). The only requirements for shipping these batteries by DOT is Special Provision 130 which states: "Batteries, dry are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits. The only requirement for shipping these batteries by air is ICAO and IATA Special Provision A123. By ocean the IMO regulates them under Special Provision 304. These Special Provisions have requirements which are similar to

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.

the requirements found in Special Provision 130 of the DOT. Under the IATA regulations if your consignment has a waybill, this waybill must contain the words "Non-Restricted" and "Special Provision A123".

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 National Capital Poison Center (NCPC) at 202-625-333 (Collect) 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.
