# Material Safety Data Sheet

Product Name: Alkaline zinc-manganese dioxide batteries Review Date: 1st Jan 2020

Alkaline batteries are exempt articles and are not subject to the OSHA Hazard Communication Standard Requirement. This sheet is only provided as technical information. Draper makes no warranty expressed or implied.

## Section 1-Product and Company Identification

PRODUCT NAME: Alkaline zinc-manganese dioxide batteries

APPLICATIONS:

| | |
|---|---|
| 61833 | AAA H/D ALKALINE BATTERY 4 PCS |
| 64247 | AAA H/D ALKALINE BATTERY24 PCS |
| 61836 | D SIZE H/D ALKALINE BATTRY 2PC |
| 61834 | AA H.DUTY ALKALINE BATTERY 4PC |
| 64248 | AA H.DUTY ALKALINE BATTERY24PC |

SUPPLIER:

Draper Tools Ltd
Hursley Road
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Eastleigh
Hampshire
SO53 1YF

Draper Helpline +44 (0) 2380 494344 Opening hours 8:30-17:00 Monday – Friday.

## Section 2-Hazards Identification

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 pock or purse. Do not remove the battery label. Keep small batteries (such as AAA) away from children. If swallowed, consult a physician at once.

## Section 3-Composition/Information on Ingredients

| Ingredient | CAS# | Approximate Content(wt%) | | | |
|---|---|---|---|---|---|
| | | LR6 | LR03 | LR14 | LR20 |
| Manganese Dioxide ($MnO_2$) | 1313-13-9 | 42.6 | 40.9 | 40.6 | 41.8 |
| Zinc (Zn) | 7440-66-6 | 16.1 | 14.8 | 16.0 | 17.4 |
| Water ($H_2O$) | 7732-18-5 | 12.2 | 11.7 | 11.0 | 11.1 |
| Potassium Hydroxide (KOH) | 1310-58-3 | 5.2 | 4.8 | 7.0 | 7.0 |
| Graphite | 7782-42-5 | 3.0 | 1.7 | 3.2 | 3.4 |
| Brass | 12597-71-6 | 2.4 | 3.0 | 1.2 | 0.8 |
| Steel | 7439-89-6 | 15.7 | 20.4 | 18.6 | 16.3 |
| Ni-plating | 7440-02-0 | 0.3 | 0.3 | 0.2 | 0.2 |
| Nylon-66 | 32131-17-2 | 1.6 | 1.5 | 1.6 | 1.4 |
| Fiber | None | 0.9 | 0.9 | 0.6 | 0.6 |

## Section 4-First Aid Measures

Damaged battery will release concentrated potassium hydroxide, which is caustic.
Ingestion: Do not induce vomiting. Seek medical attention immediately.
Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Seek medical attention if irritation persists.
Skin Contact: Remove contaminated clothing and wash skin with soap and water. If irritation persists, seek medical attention.
Inhalation: Move to fresh air. If irritation persists, seek medical attention.

## Section 5-Fire Fighting Measures

Hazardous Combustion Products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas, caustic vapours of potassium hydroxide and other toxic by-products.
Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding area. Protection of Firefighters: Specific Hazards Arising from the Material: Batteries may burst
and release hazardous decomposition products when exposed to a fire situation.
Protective Equipment and Precautions for Firefighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

## Section 6-Accidental Release Measures

Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Clean-up personnel should wear appropriate clothing to avoid eye and skin contact and inhalation of vapours and fumes. Ventilate area. Carefully collect batteries and place in an appropriate container for disposal.

## Section 7-Handling and Storage

Precautions to Be Taken in Handling: Avoid mechanical or 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.
Precautions to Be Taken in Storage: Store batteries in a dry place at normal room temperature. Do not refrigerate – this will not make them last longer.

## Section 8-Exposure Controls, Personal Protection

No engineering measure is necessary during normal use. If internal cell materials are leaked, the information in Section 4 & Section 6 will be useful.

## Section 9-Physical/Chemical Characteristics

Nominal Voltage: 1.5V

Finished consumer product. AA, AAA, C & D size batteries have cylindrical (round) shape

## Section 10-Stability and Reactivity

| | |
|---|---|
| Stability | Stable under normal conditions of use. |
| Hazardous polymerization | Will not occur |
| Condition to avoid | Do not heat, rush, disassemble, short circuit or recharge. |
| Hazardous Decomposition or Byproducts | Hydrogen |

## Section 11-Toxicological Information

Finished consumer product:

Chronic Effects: No chronic health effects reported.

Target Organs: No target organs reported.

Carcinogenicity: This finished consumer product is not carcinogenic.

## Section 12-Ecological Information

No added mercury, cadmium or lead.

This product is not expected to present an environmental hazard.

## Section 13-Disposal condition

Do not incinerate. Disposal should be in accordance with the EU Battery Directive 206/66/EC. Alkaline batteries are labelled with "special collection" symbol (as shown) in accordance with the EU Battery Directive:

## Section 14-Transportation 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 Draper alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline 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 Draper alkaline batteries are packed in such a way to prevent short circuits or the generation of excessive amount of heat and meet the special provisions listed above. In addition, the 2020 IATA (61th edition) 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.

## Section 15-Regulatory Information

EU Classification of Preparation: Not classified as a dangerous preparation

EU Battery Directive: Draper alkaline batteries comply with the substance restriction limits and labelling requirements set forth in the

EU Battery Directive 2006/66/EC and as a result contain <0.0005% (5 ppm) mercury, <0.002% (20 ppm) cadmium and <0.004% (40 ppm) lead.

The chemical symbols Hg, Cd and Pb are therefore not required below the separate collection symbol.

EU RoHS Directive: Batteries are not subject regulation.

EU REACH: Subject battery products are "articles" under REACH and not subject to REACH registration or e-SDS requirements. To the best of our knowledge, Draper alkaline batteries do not contain any of the 144 SVHCs per the ECHA updated Candidate List of June 20, 2013.

EU Labelling: None required. Labelling is not required because batteries are classified as articles under both REACH and the Dangerous Preparations Directive and as such are exempt from the requirement for labelling.

## Section 16-Other Information

EU Classes and Risk Phrases for Reference (See Sections 2 and 3)

C Corrosive

N Dangerous for the Environment

Xn Harmful

R20/22: Harmful by inhalation and if swallowed.

R22: Harmful if swallowed.

R35: Causes severe burns

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

For further information, please contact Draper : sales representative