

## Section 1. Chemical Product and Company Identification

### Product name

DRY BATTERY (zinc-carbon battery) non-rechargeable

### Details of the supplier of the safety data sheet

Premier Farnell  
150 Armley Road  
Leeds LS12 2QQ  
Tel. : +44 (0) 870 129 8608

### Emergency telephone number

+44 (0) 870 202530

## Section 2. Composition /Information on Ingredients

Chemical Nature : Mixture  
CAS-No/EINECS NO. : Not applicable

Chemical Name	Percent (by weight)	CAS No.	EC#	EU Classification
Manganese Dioxide	32%	1313-13-9	215-202-6	Xn: R 20-22
Zinc(Zn)	35%	7440-66-6	231-175-3	N: R 50-53
Zinc Chloride	9.6%	7646-85-7	231-592-0	C: R 34; Xn: R22; N: R 50-53
Carbon (C)	13.6%	7440-44-0	231-153-3	R 36/37
Water	7.3%	7732-18-5	231-791-2	None
Copper (Cu)	2.5%	7440-50-8	231-159-6	(for powder) F: R 11-36/37/38

Please refer to section 16 for an overview of all R-phrases mentioned here.

## Section 3. Hazards Identifications

### Emergency Overview

: Caution! The battery pack and enclosed cells should not be recharged, opened, disassembled, crushed, burned, or exposed to high temperatures. Do not use organic solvents or other chemical cleaners on battery. Under normal use and handling, the customer has no contact with the internal components of the battery. However, on some bad using conditions (recharge, high over charge, inverse charge, external short circuit.) and in case of a bad functioning, some electrolyte can be removed from the cell by the security vent. Exposure to the ingredients contained within the battery pack could be harmful under some circumstances.

### Target Organs

: None

### Hasard Sorts

: None

### Potential Health Effects

#### Eye

: No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.

#### Skin

: No effect under routine handling and use for sealed battery. Exposure to the electrolyte contained inside the battery may result in chemical burns.

- Ingestion : No effect under routine handling and use for sealed battery. Harmful if swallowed the electrolyte contained inside the battery. Exposure to the electrolyte contained inside the battery may cause severe chemical burn to mouth, oesophagus and gastrointestinal system.
- Inhalation : No effect under routine handling and use for sealed battery. If battery is broken, inhale fume/dust may cause respiratory irritation, cough, shortness of breath or chemical burns.

## Section 4. First Aid Measures

Caution! No effect under routine handling and use. If exposure to internal materials within cell due to damaged outer metal casing, the following actions are recommended.

- Eye : Rinse immediately with plenty of water during at least 15-30 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easily possible. Get medical aid immediately.
- Skin : In case of contact, immediately flush skin with copious amounts of water for at least 15-30 minutes while removing contaminated clothing and shoes. Wash clothing and shoes before reuse. Get medical aid immediately.
- Ingestion : Do not induce vomiting. If the injured is fully conscious: wash mouth out with water, the 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation : If inhaled, remove from exposure and move to fresh air immediately. Rinse mouth and nose with water. Get medical aid immediately. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial using oxygen and a suitable mechanical device such as a bag and a mask.

## Section 5. Fire Fighting Measures

- General Information : Leakage of electrolyte or even explosion can occur if batteries are recharge, overheated, or short circuit. In case of a fire, oxides of manganese, zinc, copper or carbon; fumes of manganese, zinc or copper; corrosive vapors/fume of zinc chloride and hydrogen chloride; and other corrosive/toxic by-products may be generated by thermal decomposition or combustion. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
- Extinguishing Media : Class D-Dry chemical powder, dry sand is suitable. Do NOT use water.

## Section 6. Accidental Release Measures

- General Information : No action shall be taken involving any personal risk or without suitable training. Review Section 5 and Section 7 sections before proceeding with clean-up. Use proper personal protective equipment as indicated in Section 8. Appropriate ventilation. If electrolyte leaks or spills, do not touch or walk through electrolyte.
- Spills/Leaks : Keep unnecessary people away. Remove heat and sources of ignition. Carefully collect undamaged batteries in a clean, dry and appropriate container for reuse or disposal. If electrolyte leaks or spills, collect all released material in an appropriate container before proper disposal.

## Section 7. Handling and storage

- Storage** : Store in a cool and dry area, but prevent condensation on cell or battery terminals. High temperature may damage the performance of the battery, cause leaking or rusting. Protect from physical damage and short circuits. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and Negative terminal of batteries on electrically conductive surfaces.
- Handling** : Do not remove battery label. Do not dispose in fire, mix with other battery types, recharge, connect improperly. Or short circuit, which may result in overheating, explosion or leakage of cell contents. Inadvertent charging can occur if a battery is installed backwards. Accidental short circuit will bring high temperature elevation to the battery as well as shorten the battery life. Be sure to avoid prolonged short circuit the heat can burn attendant skin and rupture of the battery cell case. Battery bulk container, coins, metal jewellery, metal worktable, metal belt or other equipment for assembly battery may be the source for short circuit. Use effective anti short circuit measures. Do not use organic solvents or other chemical cleaners on battery. Do not disassembly or decompose. Avoid contacting with water, avoid straight sunlight.

## Section 8. Exposure controls/Personal protection

### Exposure Limit

CAS No.	ACGIH (mg/m <sup>3</sup> )	NIOSH (mg/m <sup>3</sup> )	OSHA (mg/m <sup>3</sup> )
1313-13-9	TLV-TWA 0.2(as Mn)	None Listed	None Listed
7440-66-6	TLV-TWA 5(as ZnO fume)	None Listed	PEL-TWA 5(as ZnO fume)
7646-85-7	TLV-TWA 1 (Zinc chloride fume); TLV-STEL 2 (Zinc chloride fume)	REL-TWA 1(Zinc chloride fume); REL 2 (Zinc chloride fume)	PEL-TWA 1 (Zinc chloride fume)
7440-44-0	None Listed	None Listed	None Listed
7732-18-5	None Listed	None Listed	None Listed
7440-50-8	TLV-TWA 0.2(as fume); TLV-TWA 1 (dust and mist)	REL-TWA 1	PEL-TWA 1

- Monitoring Methods** : No information found.
- Engineering Controls** : General room ventilation is sufficient during normal use and handling. Do not install these batteries in sealed, unventilated areas. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Work/Hygienic Practices** : Remove jewelry, rings, watches and any other metallic objects while working on battery. All tools should insulate to avoid the possibility of shorting connections. DO NOT tools on top of the battery. The work area should be equipped with the corresponding species and quantity of fire equipment and leakage emergency equipment.

### Personal Protective Equipment:

- Eye** : Under normal condition of use and handling no special protection is required for sealed battery.
- Skin** : Under normal condition of use and handling no special protection is required for sealed battery.
- Clothing** : Under normal condition of use and handling no special protection is required for sealed battery.

Respirators	: Under normal condition of use and handling no special protection is required for sealed battery. Use appropriate respirator if airborne dust or mist concentrations exceed.
Personal Protective Equipment (In the Event of Battery Case)	: No smoking or eating scene work. To maintain good health habits. Wash hands thoroughly after working and before eating. Keep batteries away from small children.
Other Protection	: No smoking or eating scene work. To maintain good health habits. Wash hands thoroughly after working and before eating. Keep batteries away from small children.

## Section 9. Physical and Chemical Properties

Physical State	: Cylindrical Battery	
Chemical Use	: Power Supply	
Odor: N/R	Boiling Point: N/R	Melting Point: N/R
Vapor Pressure (MM Hg/70 F): N/R	Vapor Density (Air=1): N/R	Specific Gravity: N/R
Decomposition Temperature: UNKNOWN	Evaporation Rate And Ref: N/R	Solubility In Water: N/R
Percent Volatiles By Volume: N/R	Viscosity: N/R	pH: N/R
Corrosion Rate (IPY): UNKNOWN	Auto ignition Temperature: N/R	

## Section 10. Stability and Reactivity

Chemical Stability	: Stable under normal use
Condition to avoid	: Direct sunlight and high humidity. When a battery cell is exposed to an external short circuit, crushed, modification, high temperature, open flames, it will be the cause of heat generation and ignition. May explode or leak if recharged. Inadvertent charging can occur if a battery is installed backwards.
Incompatibilities with Other Materials	: Conductive materials, water, seawater, strong oxidizers and acids.
Hazardous Decomposition Products	: In case of a fire, oxides of manganese, zinc, copper or carbon; fumes of manganese, zinc or copper; corrosive vapors/fume of zinc chloride and hydrogen chloride; and other corrosive/toxic by-products may be generated by thermal decomposition or combustion.
Hazardous Polymerization	: Will not occur

## Section 11. Toxicological Information

The product is multi component mixture for which no toxicological data exists.

## Section 12. Ecological Information

In general, no ecological data is available for preparations.

## Section 13. Disposal considerations

Waste disposal method	: Individual consumers may dispose of spent (used) batteries with household trash. We does not recommend that spent batteries be accumulated (quantities of five gallons or more should be disposed of in a secure landfill), if recycling is
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not possible, the product have to be disposed of in accordance with your local legislation and regulations. Do not incinerate, since batteries may explode at excessive temperatures.

## Section 14. Transport Information

Road (ADR/RID) : Not regulated  
Air (ICAO/IATA) : Not regulated  
Sea (IMDG) : Not regulated

## Section 15. Regulatory Information

None

## Section 16. Other information

The information on this Safety Date Sheet (SDS) was obtained form 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.

<b>Part Number</b>
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