

## MATERIAL SAFETY DATA SHEET

### 1. Chemical product

Name: Dry Battery

Chemical system: Zinc Chloride Battery

Model: R03(AAA) R6(AA) R14(C) R20(D) 6F22(9V) 4R25 3R12

Manufacturer: Camelion Battery Co. Ltd

Address: 705-708, Cyber Timers Tower A, Tian'an Cyber Park, Shenzhen, China

Tel: 0755-83618088

### 2. Composition /information on ingredients:

Chemical Nature: Zinc Chloride Battery

Dangerous ingredients which have to be mentioned acc. To 99/45/EEC and it adaptations

Component	Content(%wt)	CAS-No	Appearance	Toxicity	Flammability
Zinc	26.5~32.5	7440-66-6	Dust as particulates	None	None
Manganese Dioxide	32.0~38.5	1313-13-9	Black-brown Powder		
Carbon Rod	5.3~8.5	<a href="#">7440-44-0</a>	Black Solid		
Acetylene Black	4.2~5.5	<a href="#">1333-86-4</a>	Black Powder		
Zinc Chloride	4.8~6.8	7646-85-7	White Powder		
Ammonium Chloride	1.0~1.4	<a href="#">12125-02-9</a>	White Powder		
Steel	1.3~3.0	7439-89-6	Metal Solid	None	None
Brass	0~1.3	<a href="#">86376-49-0</a>	Plate	None	None
Paper	1.8~2.7	92704-41-1	Membrane		
Plastic	2.1~4.2	<a href="#">9003-07-0</a>	Solid		
Water	14.1~18.7	<a href="#">7732-18-5</a>	Liquid	None	None
Asphalt	0.8~2.3	<a href="#">8013-86-3</a>	Solid		

### 3. Hazards identifications

General: The battery should not be opened or discarded in fire or recharged or used improperly, or it could exposure. The ingredient and their combustion could be harmful.

Material or Ingredient	PEL (OSHA)	TLV (ACGIH)
------------------------	------------	-------------

Acetylene Black	3.5mg/m <sup>3</sup> TWA (as carbon black)	3.5mg/m <sup>3</sup> TWA (as carbon black)
Ammonium Chloride	None established	10.0mg/m <sup>3</sup> TWA (Fume) 20.0mg/m <sup>3</sup> STEL (Fume)
Manganese Dioxide	5.0mg/m <sup>3</sup> CEILING (as Mn)	0.2mg/m <sup>3</sup> TWA (as Mn)
Zinc	15.0mg/m <sup>3</sup> TWA (Total dust as particulates not otherwise regulated) 5.0mg/m <sup>3</sup> TWA (Respirable fraction as particulates not otherwise regulated)	10.0mg/m <sup>3</sup> TWA (Inhalable particulate) 3.0mg/m <sup>3</sup> TWA (Respirable particulate)
Zinc Chloride	1.0mg/m <sup>3</sup> TWA (Fume)	1.0mg/m <sup>3</sup> TWA (Fume) 2.0mg/m <sup>3</sup> STEL (Fume)

The Common known rules for handing of chemicals should be obeyed. Do not eat drink the product.

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

Hazards to man: This is preparation is classified Xi, N R38-43 according to the CE directive, May cause sensitization by skin contract

Hazards to environment: When spilled, this product may raze the surface of plastic, leather and paint, underground and surface water.

#### 4. First –aid measures:

Inhalation: In case of excessive inhalation remove the person to fresh air and at rest obtain medical advice.

Skin contact: Remove contaminated clothing. Wash affected areas with plenty of water and soap. If irritation occurs, consult a physician.

Eye contact: Rinse eyes immediately with running water for at least ten minutes. Consult an ophthalmologist.

Ingestion: Rinse mouth with water. Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.

#### 5. Fire-fighting measures

Suitable extinguishing media: Carbon dioxide (CO<sub>2</sub>), 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.

## 6. Accidental release measures:

Personal precautions: 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.

## 7. Handling and storage

General: Obey the common known rules and precautions for handling with chemicals.

Fire/Explosion protection: Product vapors and oxygen/air may lead to potentially explosive mixtures. Keep ignition sources away. Do not smoke. Avoid electrostatic charge. Provide fire extinguisher.

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

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

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

Disposal: Dispose in accordance with all applicable local regulations. Appropriate disposal technologies include incineration and landfill.

## 8. Exposure controls/Personal protection

Exposition/ Technical measures: Atmospheric vapor concentrations must be minimized by adequate ventilation. Protection of hands, eyes and skin: To protect hands, eyes and skin, the use of appropriate chemical resistant gloves, safety glasses and suitable protective clothing is strictly recommended.

## 9. Physical and chemical properties

Color	Any colors	Vapor pressure	no applicable
Odor	COOL COLOGNE Smell	Explosion limit	not applicable
pH value	not determined	Oxidizing properties	not applicable
Specific gravity	0.990-1.040 (at 25°C)	Flashpoint	not determined
Refractive index	1.480-1.515 (at 20°C)	Auto flammability	not determined

---

Solubility in ethanol	soluble	Partition coefficient	not determined
Melting Point	not applicable	Boiling Point	not determined
Freezing Point	not determined		

## 10. Stability and Reactivity

Good stability at standard temperature. Avoid temperatures above or close to the flash point. Never heat sealed containers. This product presents no significant reactivity hazard, by itself or in contact water.

Hazardous decomposition products: carbon monoxide and unidentified organic compounds may be formed during combustion.

## 11. Toxicological information

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

## 12. Ecological information

In general, no ecological data is available for preparations.

Precautions avoid disposing into drainage systems and in the environment.

## 13. Disposable considerations

Don not dispose of into environment or into sewerage. If recycling is not possible, the product and its container have to be disposed of in accordance with your local legislation and regulations.

## 14. Transport Information

This production is not hazardous under the applicable dot icao/iata, or IMDG regulation.

Zinc chloride batteries comply with Special Provisions A123 under the IATA.

The battery must comply with IATA (65th Edition 2024).

## 15. Regulatory Information

Symbol: N/A

Contains: Expiration date is on the battery bottom..

## 16. Other information

The information on this Material Safety Data Sheet (MSDS) was obtained from current and reputable Camelion. 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.



According the European directive 2006/66/EC

Date :2024.01.1  
NO. :CD-002

---