

# MATERIAL SAFETY DATA SHEET

according to the European Directive 2001 /5/EC

Page 1 von 4  
Alkaline Batteries  
Jan. 2<sup>nd</sup>, 2010  
Rev: 1

**TTT-FILMSERVICE**  
Gabriele Westenberger · Industrie-Großhandel

The information contained within is provided for your information only. This battery is not classified as dangerous according to the criteria of directive 99/45/EEC. The information and recommendations set forth herein are made in good faith and are believed to be accurate as of the date of preparation. However, TTT-Filmservice, MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM RELIANCE ON IT.

## **MATERIAL SAFETY DATA SHEET**

**PRODUCT NAME:** CARDIOCELL Battery **TYPES:** all

**TRADE NAME:** CARDIOCELL Alkaline

**CHEMICAL SYSTEM:** Alkaline Manganese Dioxide-Zinc

### **I – MANUFACTURE INFORMATION**

Manufactured for:  
TTT-Filmservice  
Inh. Gabriele Westenberger  
Wannenäckerstr. 47  
74078 Heilbronn / Germany

Telephone Numbers for Information:  
+49(0)7131-203920

### **II – HAZARDOUS INGREDIENTS**

**IMPORTANT NOTE:** The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

<b>MATERIAL OR INGREDIENT</b>	<b>Wt. %</b>	<b>CAS No.</b>	<b>EEC No.</b>	<b>CLASSIFICATION</b>
Manganese Dioxide	35 – 40	1313-13-9	215-202-6	Xn, R20/22
Zinc	10 – 25	7440-66-6	231-175-3	F; R-15; R-17
Potassium Hydroxide (38 %)	5 – 10	1310-58-3	215-181-3	C; R35

### **III – HAZARDS IDENTIFICATION**

**General Advice:** The common know 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 packaging and the battery. Potential for exposure should not exist unless the battery leaks, is exposed to high temperature 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.

**Hazards to man:** If battery leaking, exposure to caustic ingredients may occur.

**Hazards to the environment:** Not applicable

**Other Information:** Keep batteries away from small children.

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Page 2 von 4  
Alkaline Batteries  
Jan. 2<sup>nd</sup>, 2010  
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## 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 material 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 of batteries. If exposed to a 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.

## V – PRECAUTIONS FOR SAFE HANDLING AND USE

### 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.
- Exposures 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 equipment:** Wear full protective clothing. Use self-contained breathing apparatus.

### 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 of cleaning up:** Collect spilled material with an inert standard absorbent like sand or silica. Care for well-ventilated conditions. Recycle or dispose of the material in an appropriate way.
- Handling and storage:** Obey the common known rules and precautions for handling with chemicals.
- General handling:** 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 at room temperature in a well ventilated area. Elevated temperatures can result in shortened battery life.

# MATERIAL SAFETY DATA SHEET

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Page 3 von 4  
Alkaline Batteries  
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## Exposures controls and personal protection

<b>Respiratory equipment:</b>	None required under normal use conditions.
<b>Hand protection:</b>	None required under normal use conditions. Use neoprene, rubber or nitrile gloves when handling leaking batteries.
<b>Eye protection:</b>	None required under normal use conditions. Wear safety glasses when handling leaking batteries.
<b>General safety and hygiene measures:</b>	Use only as directed.

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## Physical and chemical properties

<b>Form and color:</b>	Stainless steel top battery, contents dark and gray in color
<b>Odour:</b>	Not applicable
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Explosion limit:</b>	Not available
<b>Ignition temperature:</b>	Not available
<b>Vapour pressure:</b>	Not available
<b>Specific gravity:</b>	Not applicable
<b>Solubility in water:</b>	Not applicable
<b>Solubility in other solvents:</b>	Not applicable
<b>pH value:</b>	Not available
<b>Partition coefficient:</b>	Not available
<b>Viscosity:</b>	Not available

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## Stability and Reactivity

<b>Thermal decomposition:</b>	Batteries may burst and release hazardous decomposition products when exposed to fire.
<b>Substances to avoid:</b>	Strong oxidation agents.
<b>Hazardous reactions:</b>	Contents incompatible with strong oxidising agents
<b>Hazardous decomposition products:</b>	Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas; caustic vapours of potassium and other toxic by-products.

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Page 4 von 4  
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## Toxicological Information

Toxicity information is available on the battery ingredients noted in Section II, but in general, not applicable to intact batteries.

**Chronic health effects:** Not applicable to intact batteries.

**Ecological information:** Not available

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## Disposable 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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## Transport Information

**Road (ADR/RID):** Not regulated

**Air (ICAO/IATA):** Not regulated

**Sea (IMDG):** Not regulated

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## Regulatory Information

**EC labeling:** None

**Risk phrases:** None

**Safety phrases:** None

Labeling is not required because alkaline batteries are classified as "articles" under the Dangerous Preparations Directive and as such are exempt from the requirements of the Directive.