



# SAFETY DATA SHEET

## Primary Alkaline Battery



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### 1. IDENTIFICATION

#### 1.1 Product

Alkaline batteries (Mercury free)

Trade name and model: All types in steel container  
IEC designation: LR.... According IEC 285  
Electrochemical system: Manganese Dioxide

#### **Electrodes:**

Positive: Manganese Dioxide  
Negative: Zinc  
Electrolyte: Potassium hydroxide water solution  
Nominal voltage: 1.5Volts

#### 1.2 Supplier 18, 42, 43

Name: ANSMANN AG  
Address: Industriestraße 10, 97959 Assamstadt  
Tel/Fax: + 49 62 94 42 04 0 / + 49 62 94 42 04 44  
Emergency contact: ANSMANN local dealer

### 2. Hazardous Ingredients / Identify Information

IMPORTANT NOTE: The product is a manufactured article as described in 29 CFR 1910.1200. The battery cell is contained in a hermetically-sealed case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, hazardous materials are fully contained inside the battery cell. The battery cell should not be opened or exposed to heat because exposure to the following ingredients contained within could be harmful under some circumstances. The following information is provided for the user's information only.

Chemical Name	CAS No.	% / wt	ACGIH TLV (mg/m3)
Manganese Dioxide	1313-13-9	30 – 50	0,2mg
Graphite	7782-42-5	2 – 6	2mg
Zinc	7440-66-6	10 – 25	10mg (as ZnO)
Potassium Hydroxide	1310-58-3	2 – 9	2mg
Barium Sulfate	7727-43-7	< 5	10mg
Steel	7439-89-6	15 – 28	-
Mercury		≤ 0,0005	
Lead		≤ 0,4	
Cadmium		≤ 0,025	



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### 3. Physical / Chemical Characteristics

Boiling Point (°F) NA	Vapor Pressure (mm HG) NA	Vapor Density (Air = 1) NA
Percent Volatile by Volume (%) NA	Evaporation Rate NA	Density (grams/cc) NA
pH NA	Solubility in Water NA	Appearance and Odor geometric solid object

### 4. Fire and Explosion Hazard Data

Flash Point: NA                      Lower Explosive Limit: NA                      Upper Explosive Limit: NA

Flammable Limits in Air (%): NA                      Auto-Ignition: NA

Extinguishing Media: Use water, foam or dry powder, as appropriate.

Special Fire Fighting Procedures: As with any fire, wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products (see section 2)

Special Fire Explosion Hazards: Like any sealed container, battery cells may rupture when exposed to excessive heat. This could result in the release of flammable or corrosive materials

### 5. Reactivity Data

The batteries are stable under normal operating conditions.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: NA

Decomposition temperature: NA

Conditions to avoid: Electrical shorting, heat, open flames, sparks, and moisture.

### 6. Health Hazard Data

Threshold Limit Values: See Section 2

Effects of Overexposure: None (In fire or rupture situation see section 2 and section 4)

Inhalation: During normal use inhalation is an unlikely route of exposure due to containment of hazardous materials within the battery case. However, should the batteries be exposed to extreme heat or pressures causing a breach in the battery cell case, exposure to the constituents may occur.

Ingestion: If the battery case is breached in the digestive tract, the electrolyte may cause localized burns.

Skin Absorption: No evidence of adverse effects from available data.

Skin Contact: Exposure to the electrolyte contained inside the battery may result in chemical burns.

Eye Contact: Exposure to the electrolyte contained inside the battery may result in severe irritation and chemical burns.



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### Emergency and First Aid Procedures:

- Swallowing: Harmful if swallowed. Do not induce vomiting. Seek medical attention immediately.
- Skin: If the internal cell materials of an opened battery cell comes into contact with the skin, immediately flush with water for at least 15 minutes.
- Inhalation: If potential for exposure to fumes or dusts occurs, remove immediately to fresh air and seek medical attention.
- Eyes: If the contents from an opened battery comes into contact with the eyes, immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention.

## **7. Spill and Leak Procedures**

### Procedures to contain and clean up leaks or spills:

In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal container.

### Reporting Procedure:

Report all spills in accordance with Federal, State and Local reporting requirements.

### Waste disposal method:

When shredded per Toxicity Characteristic Leachate Procedure (TCLP) parameters and tested per SW 846, 3rd Edition, Test Methods for Evaluating Solid Waste, independent certified laboratory analyses have indicated these Ansmann battery types to have no hazardous waste characteristics (per 40 CFR, Part 261.24) and can be landfilled if all other Federal, State and Local regulations are complied with.

## **8. Safe Handling and Use (Personal Protective Equipment)**

Ventilation Requirements: Not required under normal use.

Respiratory Protection: Not required under normal use.

Eye Protection: Not required under normal use.

Gloves: Not required under normal use.

## **9. Precautions for Safe Handling and Use**

Storage: Store in a cool place, but prevent condensation on cell or battery terminals. Elevated temperatures may result in reduced battery life. Optimum storage temperatures are between -31 °F and 95 °F.

Mechanical Containment: If there are special encapsulation or sealing requirements, consult your Ansmann representative about possible cell hazard precautions or limitations.

Handling: 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 since the heat can burn attendant skin and even rupture of the battery cell case. Batteries packaged in bulk containers should not be shaken. Metal covered tables or belts used for assembly of batteries into devices can be the source of short circuits; apply insulating material to assembly work surface.



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### **10. Transportation**

Transportation-Shipping: These are "batteries, dry" and are not considered to be a "hazardous material" per the Dept. of Transportation (USDOT) regulations or "dangerous goods" per the International Air Transport Association (IATA) regulations. Shipments must comply with the general duty clause of USDOT 49 CFR 172.102 (a) (1) special provision 130, "to prevent shorting potential while transporting."

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