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9V Alkaline Battery

**MATERIAL SAFETY DATA SHEET
SDS/MSDS**

SECTION 1: Identification

Product: 9V Alkaline Battery

Product Code: T&R #010-007

Recommended Use: Power source for electronic devices

Restrictions on Use: Do not disassemble, crush, or expose to high temperatures

Supplier Details:

Name: Tinker & Rasor

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SECTION 2: Hazard(s) Identification

- **GHS Classification:**
 - Skin Corrosion/Irritation: Category 2
 - Eye Damage/Irritation: Category 2A
 - Specific Target Organ Toxicity (Repeated Exposure): Category 2
- **Label Elements:**
 - **Pictograms:** Exclamation mark, Health hazard
 - **Signal Word:** Warning
 - **Hazard Statements:**
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
 - H373: May cause damage to organs through prolonged or repeated exposure
 - **Precautionary Statements:**
 - P264: Wash thoroughly after handling
 - P280: Wear protective gloves and eye protection
 - P302+P352: If on skin, wash with plenty of water



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- P305+P351+P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P314: Get medical advice if you feel unwell

SECTION 3: Composition/Information on Ingredients

- **Substance:** Mixture
 - **Chemical Name:** Manganese dioxide, Zinc, Potassium hydroxide
 - **CAS Numbers:** 1313-13-9 (Manganese Dioxide), 7440-66-6 (Zinc), 1310-58-3 (Potassium Hydroxide)
 - **Weight Percent:** Varies; battery components are enclosed within a sealed case

SECTION 4: First Aid Measures

- **Eye Contact:** Flush eyes with water for at least 15 minutes. Seek medical attention if irritation persists.
- **Skin Contact:** Wash affected area with soap and water. Remove contaminated clothing. Seek medical attention if symptoms persist.
- **Inhalation:** Move to fresh air. Seek medical attention if symptoms persist.
- **Ingestion:** Do not induce vomiting. Rinse mouth and seek medical attention immediately.

SECTION 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Dry chemical, carbon dioxide, or water spray.
- **Special Hazards:** Fire may release toxic fumes, including oxides of manganese and potassium.
- **Protective Equipment for Firefighters:** Use self-contained breathing apparatus and protective clothing.

SECTION 6: Accidental Release Measures

- **Personal Precautions:** Wear appropriate protective equipment to avoid contact with electrolyte.
- **Environmental Precautions:** Prevent spilled material from entering drains or waterways.
- **Clean-Up Methods:** Collect spilled material in a suitable container for disposal. Use water to neutralize any spilled electrolyte.



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SECTION 7: Handling and Storage

- **Handling:** Do not disassemble, puncture, or expose to high temperatures or open flames. Avoid contact with leaking electrolyte.
- **Storage:** Store in a cool, dry place away from direct sunlight and incompatible materials. Keep out of reach of children.

SECTION 8: Exposure Controls/Personal Protection

- **Exposure Limits:**
 - Manganese Dioxide: OSHA PEL: 5 mg/m³
 - Potassium Hydroxide: ACGIH TLV: 2 mg/m³ (ceiling)
- **Engineering Controls:** Ensure proper ventilation.
- **Personal Protective Equipment:**
 - Gloves: Chemical-resistant gloves
 - Eye Protection: Safety goggles
 - Respiratory Protection: Use NIOSH-approved respirator if exposure limits are exceeded

SECTION 9: Physical and Chemical Properties

- **Appearance:** Cylindrical battery with metal casing
- **Odor:** Odorless
- **Melting Point:** Not applicable
- **Solubility:** Electrolyte is soluble in water; casing is insoluble

SECTION 10: Stability and Reactivity

- **Stability:** Stable under normal conditions of use
- **Incompatible Materials:** Strong acids, bases, and oxidizing agents
- **Hazardous Decomposition Products:** Thermal decomposition may produce toxic fumes

SECTION 11: Toxicological Information

- **Acute Toxicity:** Harmful if electrolyte is ingested or comes into contact with skin
- **Skin Irritation:** Causes irritation
- **Eye Irritation:** Causes irritation
- **Chronic Effects:** Prolonged exposure to electrolyte may cause burns or tissue damage



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SECTION 12: Ecological Information

- **Ecotoxicity:** Components may be toxic to aquatic organisms
- **Persistence and Degradability:** Not biodegradable
- **Bioaccumulative Potential:** May accumulate in aquatic organisms

SECTION 13: Disposal Considerations

- **Disposal Methods:** Dispose of in accordance with local, regional, and national regulations. Do not incinerate.

SECTION 14: Transport Information

- **UN Number:** UN3028
- **Proper Shipping Name:** Batteries, dry, containing potassium hydroxide, solid
- **Transport Hazard Class:** Not regulated for most forms of transport under normal conditions
- **Packing Group:** Not applicable
- **Environmental Hazards:** Avoid release into the environment

SECTION 15: Regulatory Information

- **US Regulations:**
 - TSCA: Listed
 - SARA 311/312: Acute and chronic health hazard
- **EU Regulations:** Complies with REACH regulations



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SECTION 16: Other Information

Date of Preparation: December 15, 2024

Revision Number: 1

Other Information:

Disclaimer:

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