Ascent Battery Supply, LLC
925 Walnut Ridge Drive
Hartland, Wisconsin 53029

Material Safety Data Sheet — Alkaline (Manganese Dioxide)

The information and recommendations below are believed to be accurate at the date of preparation. Ascent Battery Supply makes no warranty of merchantability or any other warranty, express or implied, with respect to such information and we assume no liability resulting from its use. This MSDS provides guidelines for safe use and handling of the product. It does not and cannot advise all possible situations. Your specific use of this product should be evaluated to determine if additional precautions must be taken.

Distributed By:	Ascent Battery Supply, LLC	**Emergency Number**	INFOTRAC (800) 535-5053
Address:	925 Walnut Ridge Drive Hartland, Wisconsin 53029	**Overseas Emergency Number**	INFOTRAC (352) 323-3500 (Collect)
Revision Date:	10/07		

SECTION 1 – IDENTITY

Product Name	Manganese Dioxide Battery
Common Synonyms	Alkaline
DOT Description	Dry Battery
Chemical Name	Manganese Dioxide; Primary Battery

SECTION 2 – HAZARDOUS INGREDIENTS

Chemical Name	CAS No.	Percentage %
Manganese Dioxide	1313-13-9	50
Zinc	7440-66-6	18
Graphite	7782-42-5	3
Potassium Hydroxide	1310-58-3	15
Stainless Steel	N/A	12
Plastic	N/A	2

SECTION 3 – PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point	NA	**Melting Point**	NA
Vapor Pressure	NA	**Vapor Density**	NA
Specific Gravity	NA	**Percent Volatile By Volume**	NA
Solubility in Water	NA	**Reactivity in Water**	NA
Appearance and Odor	Geometric, solid object	**Evaporation Rate**	NA
Flash Point	NA	**Flammable Limits in Air % by Volume**	NA
Extinguisher Media	Use Water, foam or dry powder	**Auto-Ignition Temperature**	NA
Special Fire Fighting Procedures	Wear self-contained breathing apparatus to avoid inhalation of hazardous decomposition products.		
Unusual Fire and Explosion Hazards	Cells may rupture when exposed to excessive heat. This could result in the release of flammable or corrosive materials.		

SECTION 4 – PHYSICAL HAZARDS

Stable or Unstable	Stable	**Conditions to Avoid**	Electrical shorting the cell.
Incompatibility (Materials to Avoid)	NA		
Hazardous Decomposition Products	NA		
Hazardous Polymerization	Will Not Occur		

SECTION 5 – HEALTH HAZARDS

Threshold Limit Value	NA
Signs and Symptoms of Exposure	None (In fire or rupture situation see section 2 and section 4.)
Medical Conditions Generally Caused by Exposure	Chemicals may cause burns to skin, eyes, gastrointestinal tract and mucous membranes.
Routes of Entry	Skin, Eyes, Swallowing
Emergency and First Aid Procedures for	Manganese Dioxide Chemicals
1. Inhalation	Get fresh air. If symptoms persist seek medical attention
2. Eyes and Skin	If a cell ruptures, flush with copious quatities of flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water.
4. Ingestion	Ingestion of battery chemicals can be harmful. Call The National Battery Ingestion Hotline (202-625-3333) 24 hours a day, for procedures treating ingestion of chemicals. Do not induce vomiting.

SECTION 6 – SPECIAL PROTECTION INFORMATION

Respiratory Protection	NA				
Ventilation	NA	**Local Exhaust**	NA	**Mechanical** (General)	NA
Gloves	Wear gloves if cell ruptures, is corroded or leaking chemicals.	**Safety Glasses**	Always wear safety glasses when working with batteries and cells.		
Other Protective Equipment	NA				

SECTION 7 – SPECIAL PRECAUTIONS – SPILL AND LEAKAGE PROCEDURES

Precautions to be Taken when Handling and Storing	Store in dry place. Storing unpacked cells together could result in cells shorting and heating to the point of rupturing.
Other Precautions	If packaging materials are not available place masking taped on positive and negatives ends of the cells.
Steps to be Taken if chemicals are spilled	If cells are leaking or rupture, prevent skin and eye contact and collect all released material in a plastic lined metal container.
Waste Disposal	Manganese Dioxide (Alkaline) batteries have no hazardous waste characteristics and can be landfilled.
Transportation	These are considered to be "Dry Batteries" and are not considered a "Hazardous Material" per U.S. DOT (Department of Transportation) regulations or "dangerous goods" per IATA (International Air Transport Association) regulations.