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

Material Safety Data Sheet — Lithium Manganese Dioxide (Coin)

The information and recommendations below are believed to be accurate at the date of preparation. Ascent Battery 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 sheet 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:	04/2011		
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SECTION 1 – IDENTITY

Product Name	Nuon Lithium Manganese Dioxide
Common Synonyms	Lithium (CR) Primary battery (Non-rechargeable)
DOT Description	Dry Battery
Chemical Name	Lithium Manganese Dioxide

SECTION 2 – INGREDIENTS

Chemical Name	CAS No.	Percentage %
Active Material		
Manganese Dioxide	1313-13-9	12-42
Lithium Triflouromethanesulfonimide	90076-65-6	0-3
Lithium Triflouromethanesulfonate	33454-82-9	0-3
Carbon Black	1333-86-4	0-1
Lithium Metal	7439-93-2	1-6
Propylene Carbonate	108-32-7	0-8
Dimethoxymethane	110-714-4	0-6
Dioxolane	646-06-0	0-8
Inert Material		
Steel	7439-89-6	20
Graphite	7782-42-5	0-3

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	Geo-metric, solid object	**Evaporation Rate**	NA

Flash Point	None	**Flammable Limits in Air % by Volume**	NA
Extinguisher Media	For burning Battery in Bulk Quantities of Unpacked Cells, Use Class D Extinguishers; Lith-X, Powdered Graphite.	**Auto-Ignition Temperature**	NA

Special Fire Fighting Procedures	No Water, Sand, Carbon Dioxide, Soda-Acid or Halogenated Extinguishers. Wear Self Contained Breathing Apparatus & Full Protective Clothing.
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**	Fire, Heat, Moisture, Recharge, Disassemble, electrical shorting
Incompatibility (Materials to Avoid)	Water with internal contents of battery		
Hazardous Decomposition Products	NA		
Hazardous Polymerization	Will Not Occur		

SECTION 5 – HEALTH HAZARDS

Threshold Limit Value	NA
Signs and Symptoms of Exposure	None (In case of fire or rupture, see points 1-3 below)
Medical Conditions Generally Caused by Exposure	No exposure is normally expected. Electrolyte is immobilized and completely secured within battery. If battery is opened, acute & chronic-electrolyte (DME) is slightly to moderately toxic. May cause eye, skin & mucous membranes irritation
Routes of Entry	Skin, Eyes, Swallowing
Emergency and First Aid Procedures for	Lithium Manganese Dioxide Chemicals
1. Inhalation	Contents of an open battery can cause respiratory irritation. Inhalation of vapors may cause irritation of the upper respiratory tract and lungs. Provide fresh air and seek medical attention.
2. Eyes and Skin	If cell ruptures, flush eyes with copious quantities of flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water. DOL, PC and DME may be absorbed through the skin causing localized inflammation.
3. Ingestion	Call National Battery Ingestion Hotline (202-625-3333). Swallowing a battery can be harmful. Contents of an open battery can cause serious chemical burns of mouth, esophagus, and gastrointestinal tract. If battery or open battery is ingested, do not induce vomiting or give food or drink. Seek medical attention immediately.

SECTION 6 – SPECIAL PROTECTION INFORMATION

Respiratory Protection	Not necessary under normal conditions of use. Wear self-contained breathing apparatus when large numbers of cells are involved in a fire.				
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	None normally required. Protective clothing as needed if contact with contents is expected.

SECTION 7 – SPECIAL PRECAUTIONS – SPILL AND LEAKAGE PROCEDURES

Precautions to be Taken when Handling and Storing	Store in cool place, away from heat and open flames. Elevated temperature can result in shortened battery life. Prevent condensation on batteries. Do not short-circuit.
Other Precautions	Do not recharge, disassemble, heat above 212F, incinerate or expose contents to water. Battery contents are a fire, explosion and severe burn hazard.
Steps to be Taken if chemicals are spilled	If battery is opened, ventilate area, avoided contact with electrolyte, wear protective gloves, and place in container filled with oil and wrap tightly in polyethylene bag.
Waste Disposal	Lithium batteries are best disposed as a non-hazardous waste when fully or mostly discharged. The Federal Environmental Protection Agency (EPA) (governed by the Resource Conservation and Recovery Act (RCRA)) do not list or exempt lithium as a hazardous waste. However, if waste lithium batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amounts of unreacted lithium in the battery. The batteries must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste (as required by the U.S. Land Ban Restrictions for the hazardous and Solid Waste Amendments of 1984.)Secondary treatment center receive these batteries as manifested hazardous waste under code"D003-reactive.Use a professional disposal firm for disposal of mass quantities of charged lithium batteries. Consult your local environmental officer. Do not incinerate. Dispose of in accordance with federal, state and local environmental regulations.
Transportation	Lithium Batteries are considered non-dangerous goods by the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) because they meet all requirements of Packing Instructions (PI968-PI970), and get passed the UN38.3 test. The cargo can fulfill SP188, 230,310,957 requirements of IMDG Code (34-08). Separate Lithium batteries when shipping to prevent short-circuiting. **Passenger Aircraft Ban (for batteries only)** Effective December 29, 2004, all primary lithium batteries are banned as on passenger aircraft. In addition this rule requires that the outside of each package that contains primary lithium batteries, regardless of size or number of batteries, be labeled with the following statement **"PRIMARY LITHIUM BATTERIES-FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT". The following label must also be affixed to each carton:**