Product:	Lithium Manganese Dioxide Battery	Applicable Product Numbers:	MAP-9586
Date:	1/1/2023		
Revision:	E	Document Number:	EHS-AIS-1013

ARTICLE INFORMATION SHEET (AIS)

This Article Information Sheet (AIS) is provided as a courtesy in response to a customer request. A Safety Data Sheet (SDS) has not been prepared for this product(s) because they are articles. This AIS provides relevant battery information to consumers, OEMs and other users requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article.

SECTION 1: COMPANY INFORMATION

Manufacturer:

EaglePicher Technologies, LLC
13136 - 82A Avenue
Surrey, B.C. Canada V3W 9Y6

Phone: 604-543-4350
www.eaglepicher.com
Emergency Telephone Number: Chemtrec 1-800-424-9300

SECTION 2: ARTICLE INFORMATION

This product is exempt from hazard classification according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Description	Lithium Manganese Dioxide battery
Recommended Use	Portable power source
Applicable Product Numbers	MAP-9586
Article Construction	
Cathode	Manganese Dioxide CAS 1313-13-9
Anode	Lithium metal CAS 7439-93-2
Electrolyte	1,2-Dimethoxyethane CAS 110-71-4 Organic electrolyte CAS -
Materials of construction	
can	Steel CAS 7439-89-6, 7440-47-3
internal plastic	Polypropylene CAS 9003-07-0
Mercury-free Battery	Yes

SECTION 3: HEALTH AND SAFETY

Normal conditions of Use	Exposure to contents inside the sealed battery will not occur unless the battery leaks, is exposed to high temperatures, or is mechanically or electrically abused.
First Aid – Eye Contact	If exposed to internal components of the battery, flush with running water for at least 15 minutes and then seek medical attention.
First Aid – Skin Contact	If exposed to internal components of the battery, flush with running water for at least 15 minutes and then seek medical attention.
First Aid – Inhalation	Contents of leaking battery may be irritating to respiratory passages. Move to fresh air and seek medical attention if irritation persists.
First Aid – Ingestion	Do not induce vomiting. Seek immediate medical attention. If mouth irritation or burning has occurred, rinse mouth and surrounding area with tepid water for at least 15 minutes. Call the National Battery Ingestion Hotline (202) 625-3333 collect, day or night.
Precautionary Statements	Battery can leak or explode if heated, disassembled, shorted, recharged, exposed to fire or high temperature or inserted incorrectly. Do not pierce or burn, even after use. Store in a well ventilated place. Keep cool. Store in original container.

SECTION 4: FIRE HAZARDS AND FIREFIGHTING MEASURES

Fire Hazard	Batteries may rupture or leak if involved in a fire.
Extinguishing Media	Use any extinguishing media appropriate for the surrounding area. For incipient (beginning) fires, carbon dioxide extinguishers or copious amounts of water are effective in cooling burning lithium metal batteries. If fire progresses to where lithium metal is exposed use a Class D extinguisher suitable for lithium metal. Do not use Halon, Dry Powder or Soda Ash Extinguishers.
Fires Involving Large Quantities of Batteries	Large quantities of batteries involved in a fire will rupture and release irritating fumes from thermal degradation Use a Class “D” fire extinguisher or other smothering agent such as Lith-X, or dry sand. If using water, use enough to smother the fire. Using an insufficient amount of water will make the fire worse. Cooling exterior of batteries will help prevent rupturing. Burning batteries generate toxic and corrosive lithium hydroxide fumes. Firefighters should

	wear self-contained breathing apparatus. Detailed information on fighting a lithium metal battery fire can be found in US DOT Emergency Response Guide 138 (Substances–Water–Reactive).

SECTION 5: HANDLING AND STORAGE

Handling	Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly. Batteries may rupture or vent if disassembled, crushed, recharged or exposed to high temperatures. Do not directly heat or solder. Install batteries in accordance with equipment instructions.
Storage	Store batteries in a dry place at normal room temperature. Refrigeration does not make them last longer. Do not place near heating equipment or direct sunlight for a long time.
Spills of Large Quantities of loose batteries	Notify spill response personnel of large spills. Irritating and flammable vapors may be released from leaking or ruptured batteries. Spread batteries apart to stop shorting. Eliminate all ignition sources. If leaking, evacuate area and allow vapors to dissipate. Clean-up personnel should wear appropriate personal protective equipment to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in appropriate container for disposal. Remove any spilled liquid with absorbent material and contain for disposal.

SECTION 6: DISPOSAL CONSIDERATIONS

Collection and Proper Disposal	Dispose of used (or excess) batteries in compliance with federal, state/provincial and local regulations. Do not accumulate large quantities of used batteries for disposal as accumulations could cause batteries to short-circuit. Do not incinerate. In countries, such as Canada and the EU, where there are regulations for the collection and recycling of batteries, consumers should dispose of their used batteries into the collection network at municipal depots and retailers. They should not dispose of batteries with household trash.
USA EPA RCRA (40 CFR 261)	"Charged" lithium metal batteries meet the criteria (D003 - Reactivity) of a hazardous waste as defined under the U.S Resource Conservation and Recovery Act (RCRA) 40 CFR 261.23. If recycled, lithium metal batteries are classified as Universal Waste.

USA DOT (49 CFR 173.185 (d))	Lithium cells or batteries shipped for disposal or recycling. A lithium cell or battery, including a lithium cell or battery contained in equipment, that is transported by motor vehicle to a permitted storage facility or disposal site, or for purposes of recycling, is excepted from the testing and record keeping requirements of paragraph (a) and the specification packaging requirements of paragraph (b)(3) of this section, when packed in a strong outer packaging conforming to the requirements of §§173.24 and 173.24a. A lithium cell or battery that meets the size, packaging, and hazard communication conditions in paragraph (c)(1)-(3) of this section is excepted from subparts C through H of part 172 of this subchapter.
California Universal Waste Rule (Cal. Code Regs. Title 22, Div. 4.5, Ch. 23)	California prohibits disposal of batteries as trash (including household trash).

SECTION 7: TRANSPORTATION INFORMATION

Regulatory Status	EaglePicher Technologies, LLC lithium metal batteries are delivered in accordance with current DOT and/or IATA/ICAO regulations. Lithium metal batteries can be shipped by air in accordance with ICAO or IATA. Persons who prepare or offer lithium batteries for transport are required by regulation to be trained to the extent of their responsibility. The information in this section is provided for informational purposes only. The transportation of lithium metal batteries is regulated by ICAO, IATA, IMO, ADR and US DOT.		
Total Lithium Content (grams)	**See below for each product number:**		
	Part No.	**Total Lithium Content (grams)**	**Total Cell/Battery Weight (grams)**
	MAP-9586	3.6	114

DOT (US)

UN Number	Proper Shipping Name	Hazard Class
UN3090	Lithium metal batteries	9
UN3091	Lithium metal batteries packed with or contained in equipment	9

USA DOT Special Provision: 49 CFR 172.102(c) SP 181, 422, A54, A101 (one or more may apply.

Special Provisions Conformance: Special regulatory provisions require batteries to be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits.

USA DOT Exceptions for Lithium Cells or Batteries Shipped for Disposal or Recycling: 40 CFR 173.185(d)

Air Transport (IATA/ICAO) Packing Instructions (64th edition):

PI 968 – Lithium metal batteries (shipped alone)
PI 969 – Lithium metal batteries packed with equipment
PI 970 – Lithium metal batteries contained in equipment

Marine/Water Transport (IMDG 2022 edition) Special Provision: SP188, PI903

ADR.RID Special Provision: 188

Lithium batteries are regarded as dangerous goods based on the above stated regulations when delivered via air, sea, road and train.

A) Each cell or battery is of a type proven to meet the requirements of each test in the UN Manual Of Tests and Criteria, Part III, subsection 38-3
B) Cells and batteries are separated so as to prevent short circuits and are packaged in strong packages, except when installed in equipment.
C) The package and shipping documents are marked indicating that it contains lithium Batteries and proper labels attached.

Emergency Transportation Hotline: CHEMTREC 24-Hour Emergency Response Hotline

Within the United States call +703-527-3887
Outside the United States, call +1 703-527-3887 (Collect)

Lithium Metal

Lithium Metal Batteries
UN3090, P.I. 968

Section IA
Acceptable to dangerous goods locations where UN3090 is not prohibited.**
Cells greater than 1g and Batteries greater than 2g

- Shipper's Declaration required in net weight KG.
- UN specification packaging required (PGII standards)
- Lithium Battery Class 9 Hazard label or Class 9 Miscellaneous Dangerous Goods label (See Figure 1 or 2)
- Cargo Aircraft Only (CAO) label required (See Figure 5)
- Shipper must be on Section I (IA/IB) preapproval list

Limit per package:
Must be on CAO = 35kg

~ or ~

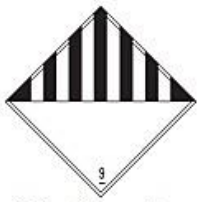
Section II
- Not accepted per IATA operator variation, must be offered as Section IA or IB.

Section IB
Acceptable to dangerous goods locations where UN3090 is not prohibited.**
Cells equal to or less than 1g; and Batteries equal to or less than 2g

- Shipper's Declaration required in net weight KG.
- Strong rigid outer packaging.
- Lithium Battery Class 9 Hazard label or Class 9 Miscellaneous Dangerous Goods label (See Figure 1 or 2)
- Completed Lithium Battery mark or Lithium Battery label (See Figure 3 or 4)
- Shipper must be on Section I (IA/IB) preapproval list
- IB on Shipper's Declaration
- Cargo Aircraft Only (CAO) label required (See Figure 5)

Limit per package:
Must be CAO = 2.5kg

Lithium Battery Class 9 Hazard Label
Figure 1



Class 9 Miscellaneous Dangerous Goods Hazard Label
Figure 2

Lithium Battery Mark
Figure 3

Shipper must add UN number(s). **AND**

Shipper must complete phone number portion of label.

Lithium Battery Label
Figure 4

Shipper must complete phone number portion of label. **AND**

"Lithium ion battery" OR "Lithium metal battery" **AND**

Mark the UN number(s) on the package adjacent to the label.

Figure 5

SECTION 8: REGULATORY DEFINITIONS AND REQUIREMENTS - ARTICLES

USA OSHA	29 CFR 1910.1200(b)(6)(v)
USA TSCA	40 CFR 704.3; 710.2(3)(c); and [19 CFR 12.1209a)]
EU REACH	Title 1 - Chapter 2 - Article 3(3)
GHS	Section 1.3.2.1

Globally Harmonized System (GHS)	GHS SDS requirements and classification criteria do not apply to articles or products (such as batteries) that have a fixed shape, which are not intended to release a chemical. The article exemption is found in Section 1.3.2.1.1 of the GHS and reads: ***The GHS applies to pure substances and their dilute solutions and to mixtures. "Articles" as defined by the Hazard Communication Standard (29 CFR 1900.1200) of the OSHA of the USA, or by similar definition, are outside the scope of the system."***
Joint Article Management Promotion Consortium JAMP	An international standard that came into effect in March 2012 concerning declaration for electrical and electronic products. IEC 6274 replaces the defunct Joint Industry Guide – Material Declaration for Electro-technical Products (JIG-101-Ed 4.1 (May 21, 2012)
IEC 62474 Ed. 1.0 B:2012 Material Declaration for Products of and for the Electro-technical Industry	An international standard that came into effect in March 2012 concerning declaration for electrical and electronic products. IEC 6274 replaces the defunct Joint Industry Guide – Material Declaration for Electro-technical Products (JIG-101-Ed 4.1 (May 21, 2012)
IEC 62474 Database – Publically available online (http://std.iec.ch/iec62474). Maintained by TC11: Environmental Standardization for electrical and electronic products and systems.	The general principle for a substance to be included in the database as a declarable substance is: 1) existing national laws or regulations in an IEC member country that are relevant to Electro-technical products and that prohibit or restrict substances, or that have a labeling, communication, reporting or notification requirement, and 2) applying IEC 62474 criteria results in identification of declarable substance.
ANSI Z 400.1/Z19.1 (2010)	2.1 Scope: Applies to preparation of SDS for hazardous chemicals used under occupational conditions. Does not address how the standard may be applied to articles. It presents basic information on how to develop and write a SDS. Additional information is provided to help comply with state and federal environmental and safety laws and regulations. Elements of the standard may be acceptable for International use.

DISCLAIMER: This AIS is intended to provide a brief summary of our knowledge and guidance regarding the use of this article. The information contained here has been compiled from sources considered by EaglePicher Technologies, LLC to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. EaglePicher Technologies, LLC assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of the product.