MSDS REPORT

Zenaji Pty Ltd

2 Shearson Cres, Mentone, Victoria, Australia

Written By: Charles Van Dongen
Position: CTO Zenaji P/L

Signature _____

APRIL 8TH, 2021

MATERIAL SAFETY DATA SHEET

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier A48-40 AEON BATTERY			[WHMIS Classification]
Product Use 48 Volt Battery for Home and Commercial Use RATING: 48 Volts 1.93 kWh 40Amps, Weight 39 kg			
Manufacturer's Name Zenaji Pty Ltd		Supplier's Name	
Street Address 2 Shearson Cres		Street Address	
City Mentone	Province Victoria	City	Province
Postal Code 3194	Emergency Telephone +61 438 698 325	Postal Code	Emergency Telephone
Date MSDS Prepared 08/04/2021	MSDS Prepared By Charles Van Dongen		Phone Number +61 438 698 325

SECTION 2 — HAZARDS IDENTIFICATION

1. **Eyes and Skin** – When leaking, the electrolyte solution contained in the battery can irritate ocular tissues and the skin. This can cause redness of the eyes, tears and burns, The electrolyte is corrosive to ocular tissue.
2. **Inhalation** – Respiratory (and eye) irritation may occur if fumes are released or an abundance of leaking cells. Burns and irritation of the respiratory system coughing, wheezing and shortness of breath.
3. **Ingestion** – The ingestion f the battery can be harmful. Content of the battery can cause serious chemical burns and tissue damage of mouth, esophagus and gastrointestinal tract.
4. **Environmental Harm** - Not anticipated under conditions of normal use.
5. **Explosive Danger -** The battery may be explosive at high temperatures (above 170 degrees C) or when exposed to fire or when overcharged and not protected by inbuilt overcharge protection circuitry.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients *(specific) LTO Cells*	%	CAS Number
Lithium Nickel Manganese Cobalt Oxide	35% to 45%	34647-97-8
Lithium Titanate (Li4Ti5O12)	15 to 20%	12101-95-7
Poly Vinylidene Fluoride (PVDF)	1% to 5%	24937-79-9
Acetylene Black	0.5% to 3%	1333-86-4
Aluminum (AL)	40% to 50%	7429-90-5
Electrolyte	10 to 15%	623-53-0/21324-40-3

SECTION 4 — FIRST AID MEASURES

Skin Contact:- Not Anticipated. If the battery is leaking and comes in contact with the skin wash with copious amounts of water for at least 15 minutes.

Eye Contact – Not Anticipated, It the battery is leaking and the contained material contacts eyes flush with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Inhalation - Not Anticipated. If the battery is leaking move to fresh air. If irritation persists, seek medical advice.

Ingestion – Not Anticipated – If the battery is leaking and the contained material is ingested, rinse mouth and surrounding area at once with clear water. Consult a physician at once for treatment.

SECTION 5 — FIRE FIGHTING MEASURES

Product is not flammable.

Unusual Fire and Explosion Hazards: Cells with the battery may explode or leak potentially hazardous vapors subject to:

- Exposed to excessive heat above 170 degrees C. (above the maximum rated temperature as specified by the cell manufacturer) or fire.
- Overcharged
- Short circuit,
- Punctured and crushed.

Hazardous Combustion Products: Fire, excessive heat, or overvoltage conditions may produce hazardous decomposition of the product. Damaged batteries or cells can result in rapid heating and the release of flammable vapors.

Extinguishing Media: Dry Chemical type extinguishers are the most effective means to extinguish a battery fire. A CO2 extinguisher will also work effectively.

Fire Fighting Procedures: Use a positive pressure self-contained breathing apparatus if batteries are involved in a fire. Full protective clothing is necessary. During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

The batteries are IP65 rated and should not release material under normal work conditions. The material contained within the battery would be released under abusive conditions. In the event of battery rupture or cell rupture, collect all the released materials that are not hot or burning in an appropriate waste disposal container while wearing proper protective clothing and ventilate the area. Place the collected material in an approved container and dispose of according to the local regulations.

SECTION 7 — HANDLING AND STORAGE

The batteries are designed to be recharged and have inbuilt safety measures designed to prevent overcharging. In the event a battery is overcharged it can cause the battery to flame. When using the batteries, use dedicated chargers and follow the specified conditions.

Never disassemble or modify a battery.

Do not immerse, throw batteries into water.

In the event a battery is crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid the inhalation of vapors that may be emitted.

Short circuit causes heating. In addition, short circuit reduces the life of the battery and can lead to the ignition of the battery or surrounding materials. Physical contact with a short-circuited battery can cause skin burn.

Avoid reversing the polarity of the battery which can cause the battery to be damaged or to flame.

In the event of eye or skin exposure to the electrolyte see Section 4. First Aid Measures

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Keep away from heat and any open flame.

I. **Ventilation**; Not necessary under conditions of normal use. In the case of abuse use adequate mechanical ventilation (local exhaust) for the battery to exhaust gas and fumes.

II. **Respiratory Protection** – Not necessary under conditions of normal use. If the battery is burning leave the area immediately.
During fire-fighting personnel should use self-contained breathing, full face respiratory equipment. Fires should be fought at a safe fire-fighting distance and all persons should be evacuated immediately.

III. **Eye Protection.** Not needed under conditions of normal use. Use safety gasses with side shields if handling a leaking or ruptured battery.

IV. **Body Protection**. Not needed under conditions of normal use, Use rubber apron and proactive clothing if handling a leaking or ruptured battery.

V. **Protective Gloves.** Not needed under conditions of normal use. Use chemical resistant rubber gloves if handling a ruptured or leaking battery.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid	Odour and Appearance N/A	Odour Threshold (ppm) N/A
Specific Gravity N/A	Vapour Density (air = 1) N/A	Vapour Pressure (mmHg) N/A
Evaporation Rate N/A	Boiling Point (° C) N/A	Freezing Point (° C) N/A
pH N/A	Coefficient of Water/Oil Distribution N/A	[Solubility in Water] N/A

SECTION 10 — STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Do not immerse battery in water. Do not throw into a fire, disassemble, short circuit or overcharge.

Incompatibility: None during normal operation. Avoid exposure to heat, open flame and corrosives.

Hazardous Polymerization: Will not occur to cells or to battery

Hazardous Decomposition: The battery may release irritative gas once there is electrolyte leakage from the cells within the battery.

SECTION 11 — TOXICOLOGICAL INFORMATION

The battery does not elicit toxicological properties during routine handling and use. There are no user serviceable parts within the battery. If the battery is opened through misuse or damage causing damage to the internal cells or other parts, discard immediately. Internal components of cells an irritant.	
Irritancy of Product The electrolytes contained in the cells of this battery can irritate eyes with any contact. Prolonged contact with the skin or mucous membranes may cause irritation.	
Skin sensitization No Information is available	Respiratory sensitization No Information is available
Carcinogenicity-IARC No Information is available	Carcinogenicity - ACGIH No Information is available
Reproductive toxicity No information is available	Teratogenicity No Information is available
Embrotoxicity No Information is available	Mutagenicity No Information is available
Name of synergistic products/effects. No information is available	

SECTION 12 — ECOLOGICAL INFORMATION

When properly used and disposed the battery does not present a ecological hazard.
The Battery does not contain Mercury, cadmium or lead. Circuit Boards are RoHs compliant.
Do not let internal components enter marine environments. Avoid releasing in water ways, waste water or ground water.

SECTION 13 – DISPOSAL CONSIDERATIONS

1. Disposal of the battery should be performed by permitted professional disposal firms knowledgeable in Federal, State and Local requirements of hazardous waste treatment and hazardous waste transportation.
2. The battery should be completely discharged prior to disposal and the terminal taped or capped to prevent short circuit. Individual cells in the battery should also be fully discharged and if removed from the outside container fully discharged and the terminals of the cells capped to prevent short circuit.
3. The battery and the cells contained in the battery contain recyclable materials. Recycling options available in your local area should be considered when disposing of this product , through licensed waste carriers.

SECTION 14 — TRANSPORT INFORMATION

According to PACKING INSTRUCTION 965 -967 of IATA DGR 61st Edition for transportation, the special provision 230 of IMDG (inc Amdt 39-18). The batteries should be securely packed and protected against short circuits. Examine whether the package of the containers are intact and tightly closed before transport. Ensure they cannot fall dropped or be broken. Take adequate measures to ensure prevent collapse of cargo piles. Do not put these goods together with oxidizer and or chief food chemicals. The transport ship should be clean before transport. During transport the vehicle and or storage container should prevent exposure to rain and high temperatures. For stopovers the vehicle should be away from fire and heat sources. When transported by sea the storage space should be away from bedrooms or kitchens and isolated from engine room, power and fire source. Under the conditions of Road Transportation, the driver should drive in accordance with regulated route and avoid stopping in residential or congested areas.

a) UN Number: 3480 & 3481

b) UN proper shipping name : LITHIUM ION BATTERIES (including lithium ion polymer batteries) or; LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT) including lithium ion polymer batteries)

c) Transport Hazard class(es): 9

PIN

d) Packing Instructions (if applicable): 965 IA, (661, (67 I

e) Marine pollutant: No

f) Transport in Bulk: No Information available

g) Special Precautions: No information available

SECTION 15 — REGULATORY INFORMATION

The transport of rechargeable lithium-ion batteries regulated by the United Nations as detailed in the "model regulations on the transport of dangerous goods Ref. ST/Sg/AC.10/1 Revision 19 2015".
Defined by UN in the "Recommendation on the transport of Dangerous Goods Chapter 38.3 Manual of Tests and Criteria Ref. ST/SG/AC/10/11 sixth revised edition 2015". The Lithium-ion Cells and the battery Packs may or may not be assigned to the UN No 3480 Class -9 that is restricted for transport.

SECTION 16 — Other Information

Date of Preparation: 8 April 2021 this report last updated.
Prepared by Zenaji Pty Ltd in conjunction with Yinlong Energy Co,, Ltd (MSDS Report No SZABB91216003-05)