Safety Data Sheet (SDS)
SOLiCORE

Date of Issue: April 2026

VALEN Power

AUSTRALIA
1300 734 253
sales@valen.com.au
www.valen.com.au

NEW ZEALAND
0800 734 253
sales@valen.co.nz
www.valen.co.nz

SAFETY DATA SHEET
FOR VALEN POWER PTY LTD

17 Cataract Street Lawson NSW 2783 AUSTRALIA

LiFePO4 Solid State Battery

Date of Issue: 13th April 2026

Model/Type Reference:

- 48ELSS100

Product Name:	Valen SOLiCORE
Application of the Substance:	100Ah maximum
Version Number:	1.0
Revision Date:	Annually; last reviewed 12th May 2026
Company:	Valen Power Pty Ltd
Address:	17 Cataract Street Lawson NSW 2783
Approved by:	Stephen Daries, Technical Director

Section 1

Explanation

The Valen Solicore™ Solid State Lithium battery range utilises advanced solid-state lithium technology, using solid electrolyte materials to deliver the required voltage (V) and ampere-hour (Ah) capacity. Cells are manufactured and assembled into a fully enclosed battery system designed for safe and reliable operation. Each unit incorporates an internal Battery Management System (BMS) to protect against over-charge, over-discharge, short-circuit, and abnormal operating conditions.

The complete battery assembly is housed in a robust protective enclosure, constructed from either high-grade ABS plastic or metal depending on the product configuration. Due to the solid-state design and absence of liquid electrolyte, the risk of leakage, gas generation, or thermal runaway is significantly reduced compared to conventional lithium-ion battery technologies.

Under normal conditions of use, handling, storage, and installation when standard electrical safety procedures are followed. The Solicore solid state lithium battery presents no significant health or safety hazards. This Safety Data Sheet (SDS) is primarily applicable in abnormal situations, such as severe mechanical damage or fire exposure, where the battery casing or internal components may be compromised and internal materials exposed.

Section 2

Information on Ingredients

INGREDIENTS		
CAS Number	Hazardous Ingredients (Chemical Name)	Concentration or concentration ranges (%)
CAS 15365-14-7	Lithium iron phosphate (LiFePO4)	32.4
CAS 7440-50-8	Copper Foil	7.93
CAS 7782-42-5	Graphite	16.3
CAS 96-49-1	Ethylene Carbonate	15.53
CAS 7429-90-5	Aluminum Foil	4.29
-	Other	23.55

Section 3

Hazards Identification

EMERGENCY OVERVIEW

There are no hazards when used as recommended.

CAUTION! Do not disassemble. Do not expose it to fire or open flame. Do not mix different batteries together. Do not puncture.

- **General:** Under normal conditions of use and handling, there is no physical danger of ignition, explosion or chemical danger of hazardous materials leakage. Hazards may be incurred if the battery is mechanically, thermally or electrically abused.
- **Inhalation:** Under normal conditions of use and handling, no inhalation hazard is present. Like any sealed container, a battery may rupture when exposed to excessive heat and this could result in the release of flammable or corrosive materials which may irritate the respiratory tract.
- **Ingestion:** It is almost impossible to swallow this battery due to its size.
- **Contact with Skin/Eyes:** if heated sufficiently to cause decomposition or rupture, fumes or spilled chemical substances can be irritating to skin/eyes. A short circuit may cause electro thermal damage to the skin.
- **Effects of Overexposure - acute:** no health hazard is anticipated during routine use of this product.
- **Effects of Overexposure – chronic:** not found

Section 4

First Aid Measures

Eye Contact

- Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin Contact

- Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

- Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

- Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious.Call a physician.

Section 5

Fire-Fighting Measures

- **Flash Point:** Not applicable.
- **Auto-Ignition Temperature:** Not applicable.
- **Hazardous Combustion Products:** Carbon monoxide, carbon dioxide, lithium oxide fumes.
- **Extinguishing Media:** Use dry chemical powder for a small fire; water spray, or alcohol-resistant foam for a large fire. Do not use a water jet.
- **Special Fire Fighting Procedures:** Structural firefighters must wear a self-contained breathing apparatus and full protective equipment.
- **Unusual Fire and Explosion Hazards:** Fire or high temperatures may cause the battery to vent/explode or leak hazardous vapours/corrosive material. Damaged or opened batteries can result in rapid heating and the release of electrolyte fumes and hazardous vapours.
- **Explosion Sensitivity to Mechanical Impact:** Not applicable.
- **Explosion Sensitivity to State Discharge:** Not applicable.

Section 6

Accidental Release Measures

- **Personal Precautions:** Use proper protective equipment as indicated in Section Exposure Controls/Personal Protection. Keep unprotected persons away.
- **Measures for Cleaning/Collection**: if electrolyte spills because of rupture, absorb the spill with inert materials and collect it in a sealed container for proper disposal. Flush the contaminated surface with plenty of water. Do not bring the collected materials close to fire.
- **Additional Information:**
  - See Section Handling and Storage for information on safe handling.
  - See Section Exposure Controls/Personal Protection for information on personal protection equipment.
  - See Section Disposal Considerations for disposal information.
- **Waste Disposal Method**
  - It is recommended to discharge the battery completely prior to recycling.
    The discharged battery should then be recycled in an environmentally friendly manner.

Section 7

Handling and Storage

The battery should not be opened, destroyed, or incinerated, as it may leak or rupture and release hazardous substances into the environment from its hermetically sealed container.

Do not short-circuit the terminals, overcharge the battery, force over-discharge, or dispose of it in fire.

Do not crush or puncture the battery, or immerse it in liquids.

Precautions for Handling and Storage
Avoid mechanical or electrical abuse. Store the battery in a cool, dry, and well-ventilated area with minimal temperature variation. Storage at high temperatures should be avoided. Do not place the battery near heating equipment or expose it to direct sunlight for extended periods.

Other Precautions
The battery may explode or cause burns if disassembled, crushed, or exposed to fire or high

temperatures. Do not short-circuit the battery or install it with incorrect polarity.

Section 8

Exposure controls/Personal Protection

Workplace Exposure Limit:

INGREDIENTS	OSHA PET-TWA	AGGIH TLV-TWA
Lithium Iron Phosphate (CAS: 15365-14-7)	10.0mg/m^3 (as iron fume)	5.0 mg/m^3 (as iron fume)
Graphite (C) (CAS: 7782-42-5)	5.0 mg/m^3 (respirable fraction)	2.0 mg/m^3 (respirable fraction)

- **Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- **Personal Protective Equipment (for Workers):**
  - **Protection for Hands:** Consider hygiene, recommend wearing gloves.
  - **Protection for Eyes:** No special requirements.
  - **Protection for Respiratory Tract:** Wear suitable respirators when high con- centration is present.
  - **Protection for Body:** Wear protective uniforms.

- **General Protective and Hygienic Measures:** Keep away from food and beverages. Wash hands before breaks and at the end of work. Avoid inhaling dust during processing.

- **Material of Gloves:** The selection of suitable gloves not only depends on the material but also on quality which will vary from manufacturer to manufacturer.

Section 9

Physical and Chemical Properties

Appearance: Cuboid shape

Ref. №: ATSU230901611

Odour: Odourless

pH: Not applicable as supplied.

Flash Point: Not applicable unless individual components exposed.

Flammability: Not applicable unless individual components exposed.

Relative density: Not applicable unless individual components exposed.

Solubility (water): Not applicable unless individual components exposed.

Solubility (other): Not applicable unless individual components exposed.

Section 10

Stability and Reactivity

Stability: Product is stable under conditions described in Section 7.

Conditions to avoid: Heat above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge.

Short circuit: Expose over a long period to humid conditions.

Materials to avoid: Fire, open flame, water and acids.

Hazardous Decomposition Products: Fire or high temperatures may cause the battery to vent/or explode or leak hazardous vapours or corrosive material. Damaged or opened batteries can result in rapid heating and the release of hazardous vapours or corrosive materials.

Hazardous Polymerization: N/A.

If leaked, forbidden to contact with strong oxidizers, mineral acids, strong alkalies, halogenated hydrocarbons.

Section 11

Toxicological Information

Product Toxicity Data: There is no available data for the product itself. The infor- mation below applied if the internal chemicals are exposed, the internal materials are as follows:

- **Irritation:** The electrolyte contained in the battery is irritating to the eyes. Pro- longed contact with skin may cause irritation.
- **Sensitivity**: Not found
- **Teratogenicity:** Not found
- **Mutagenicity:** Not found.
- **Additional Toxicological Information:** No classification data on carcinogenic properties of this material is available from EPA, IARC, NTP, OSHA or ACGIH.

Medical conditions generally aggravated by exposure: In the event of exposure to internal contents, moderate to serve irritation, burning and dryness of the skin may occur, Target organs nerves, liver and kidneys.

Section 12

Ecological Information

- **Ecological Effect:** There are no hazards present under normal use and handling.
- **Additional Ecological Information:**
  - AOX Indication: This product does not contain organically bonded halogen compounds.
  - Effect of Material on Aquatic Life: DO NOT allow this product to go into aquatic life; it will harm aquatic life as the chemical substances may spill because of rupture
- **General Notes:**
  - Do not allow products to reach groundwater, watercourse or sewerage systems.
  - Danger to drinking water if even quantities leak into the ground.
  - Do not allow material to be released to the environment without proper governmental permits.

Section 13

Disposal Consideration

- **Recommendations:**
  - Must not be disposed of with household garbage.
  - Do not dispose into the sewage system.
  - Lithium batteries are fully recyclable. Speak to your nearest recycling depot when disposing of spent batteries.
  - Batteries should be discharged fully prior to disposal.
  - The battery terminals should be capped to prevent a short circuit.
  - Disposal must be made according to local regulations.

Section 14

Transport Information

Label for conveyance: Class 9 hazard label, Cargo Aircraft Only Label

UN Number: UN3481 - UN3481 for Lithium Batteries contained in equipment (including Solid State Lithium batteries) or Lithium Batteries packed with Equipment (including Solid State Lithium batteries).

EmS No: F-A, S-I

Marine pollutant: No Packing Group: II

Hazard Classification: Class 9

Shipping Requirements:

- **DOT:** Lithium batteries and cells are subject to shipping requirements expectations under 49 CFR 173.185.
- **IATA:** This product is not classified as dangerous under the current 62nd (2021) edition of the IATA-DGR and the packing is in accordance with Section 11 packing Instructions (PI 965 & 966) and Section I of Packing Instruction 966~967 of 67th DGR Manual of IATA (2026 edition). Complies with the P903 of IMDG CODE (Amdt 42-24) Edition.

We further hereby certify that consignments have already been certified in UN38.3 Test in accordance with IATA-DGR.

Proper Shipping name:
Solid State Lithium Battery packed with/without equipment.

Section 15

Regulation Information

Major applicable regulations for the transportation of lithium-ion cells and batteries are as follows:

The UN Model Regulations: United Nations ST/SG/AC.10/1/Rev.23. Recommendations on the Safe Transport of Dangerous Goods

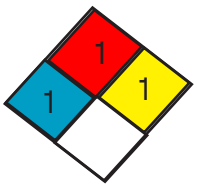
The International Civil Aviation Organization (ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air Transport

The International Air Transport Association (IATA) Dangerous Goods Regulations (67th Edition 2026)

International Maritime Organization (IMO: International Maritime Dangerous Goods Code. (P903 of IMDG CODE (Amdt 42-24) Edition)

OSHA Hazard communication standard (29 CFR 1910)

- **DSCL (EEC):** This product is not classified according to the EU regulations.
- **TSCA:** All components of this product comply with the inventory listing requirements of the U.S. Toxic Substances Control Act Chemical Substance Inventory.
- **NFPA Ratings (Scale 0-4):**



Health = 1; Fire = 1; Reactivity =1

- **HMIS Ratings (Scale 0-4):**

Health	1
Flammability	1
Reactivity	0

Hazard Rating:				
Least	Slight	Moderate	High	Extreme
0	1	2	3	4

Risk Phrases:

Ethylene Carbonate: R41: Risk of serious damage to the eyes Graphite (C): R36/37: Irritating to eyes and respiratory system

Safety Phrases:

S2: Store in a safe place out of reach of children S17: Store away from combustible material

S59: Refer to manufacturer/supplier for information on recovery/recycling.

Section 16

Other Information

DISCLAIMER: Employers should use this information only as a supplement to other information gathered by them and should make an independent judgement of the suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Full Description of some Acronyms:

CAS: Chemical Abstracts Service

EINECS:European Inventory of Existing Commercial Chemical Substances

DOT:Department of Transportation

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

TSCA: Toxic Substance Control

VALEN Power | Powering Potential

AUSTRALIA

1300 734 253

sales@valen.com.au

www.valen.com.au

NEW ZEALAND

0800 734 253

sales@valen.co.nz

www.valen.co.nz