SAFETY DATA SHEET (SDS)

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

A family owned Australian business

VERSION 4.1 MAY 2021

SAFETY DATA SHEET
FOR VALEN POWER PTY LTD

17 Cataract Street Lawson NSW 2783 AUSTRALIA

Sealed Maintenance Free VRLA Battery

Date: 26 May 2021

Model/Type Reference:

- 6 TP 1.3/6 TP 3.3/6 TP 5/6 TP 7/6 TP 12/6 TP 20/12 TP 1.3/12 TP 2.2/12 TP 2.3/12 TP 2.9/12 TP 3.3/12 TP 5/12 TP 7/12 TP 9/12 TP 12/12 TP 21/12 TP 26/12 TP 30/12 TP 33/12 TP 40/12 TP 55/12 TP 65/12 TP 70/12 TP 90/12 TP 100/12 TP 120/12 TP 150/12 TP 200/12 TP 250/12 TPFT 55/12 TPFT 75/12 TPFT 100/12 TPFT 105/12 TPFT 155/2 TP 150/2 TP 200/2 TP 300/2 TP 400/2 TP 500/2 TP 600/2 TP 800/2 TP 1000/2 TP 1500/2 TP 2000/2 TP 3000
- 6 VX 225/12 VX 7/12 VX 9/12 VX 14/12 VX 21/12 VX 33/12 VX 40/12 VX 100/12 VX 260/12 VXFT 55/12 VXFT 75/12 VXFT 100/12 VXFT 105/12 VXFT 155/12 VXFT 190/2 VX 150/2 VX 200/2 VX 300/2 VX 400/2 VX 500/2 VX 600/2 VX 800/2 VX 1000/2 VX 1500/2 VX 2000/2 VX 3000
- 12 EXFT 55/12 EXFT 75/12 EXFT 100/12 EXFT 105/12 EXFT 125/12 EXFT 155/12 EXFT 175/12 EXFT 190/12 EXFT 200/2 EX 150/2 EX 200/2 EX 300/2 EX 400/2 EX 500/2 EX 600/2 EX 800/2 EX 1000/2 EX 1500/2 EX 2000/2 EX 3000
- 12 EOFT 70/12 EOFT 80/12 EOFT 90/12 EOFT 100/12 EOFT 105/12 EOFT 155/12 EOFT 180/12 EOFT 190/12 EOFT 200/2 EO 400/2 EO 500/2 EO 600
- 12 EHFT 100/12 EHFT 130/12 EHFT 150/12 EHFT 170/12 EHFT 190
- 12 EO+FT 100/12 EO+FT 150/12 EO+FT 190
- 12 EOFT 100/12 EOFT 155/12EOFT 190
- 12 VF 20/12 VF 33/12 VF 40/12 VF 50/12 VF 55/12 VF 70/12 VF 100
- 6 VG 200/6 VG 225/12 VG 21/12 VG 26/12 VG 33/12 VG 40/12 VG 55/12 VG 60/12 VG 70/12 VG 100/12 VGFT 100/12 VGFT 155/12 VGFT 175/2 VG 100/2 VG 150/2 VG 200/2 VG 300/2 VG 400/2 VG 500/2 VG 600/2 VG 800/2 VG 1000
- 6 EG 220/6 EG 260/12 EG 50/12 EG 60/12 EG 80/12 EG 110/12 EG 170/12 EG 220/12 EG 300/12 EGFT 100/12 EGFT 155/12 EGFT 175/2 EG 400/2 EG 500/2 EG 600/2 EG 800/2 EG 1000
- 2 VO 200/2 VO 250/2 VO 350/2 VO 420/2 VO 490/2 VO 600/2 VO 800/2 VO 1000/2 VO 1200/2 VO 1500/2 VO 2000/2 VO 2500/2 VO 3000

Nominal Voltage: 2VDC/6VDC/12VDC
Typical Capacity: 3000Ah maximum
Weight: Varies per model listed above
Size: Varies per model listed above
Version Number: 4.0
Revision Date: Annually; last reviewed April 2021
Company: Valen Power Pty Ltd
Address: 17 Cataract Street Lawson NSW 2783
Approved by: Stephen Daries, Technical Director

Section 1

Chemical Product and Company Information

Product Information: Sealed Maintenance Free Lead Acid Battery
Model: See page 2
Supplier Name: Valen Power Pty Ltd
Address: 17 Cataract Street Lawson NSW 2783

Section 2

Information on Ingredients

Chemical Name	CAS Number	Weight %
Lead	7439-92-1	65-75%
Sulphuric Acid	7664-93-9	14-20%
Tin	7440-31-5	<.5%
Calcium	3440-70-2	<.1%
Fibreglass Separator	Proprietary	5%
Case Material: Acrylonitrile Butadine Styrene (ABS)	Proprietary	5-10%

Section 3

Hazards Identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article that is a sealed battery and as such, does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazard indicated are for a ruptured battery.

Acute Toxicity – Oral	Category 4
Acute Toxicity – Inhalation (Gases)	Category 4
Acute Toxicity – Inhalation (Vapours)	Category 4
Acute Toxicity – Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 1 Sub-category A
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1A
Reproductive Toxicity	Category 1A
Specific Target Organ Toxicity (Repeated Exposure)	Category 2

Emergency Overview

Signal Word	Danger
Hazard Statements	Harmful if swallowed Harmful if inhaled Causes severe skin burns and eye damage Causes serious eye irritation May cause cancer May damage fertility May cause damage to organs through prolonged or repeated exposure

This product is an article that contains a chemical substance. Safety information is given for exposure to the article as sold. The intended use of the product should not result in exposure to the chemical substance.

Precautionary Statements – Prevention

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapours/spray

Precautionary Statements – Response

- Immediately call the POISON HOTLINE or Doctor
- Specific treatment

Eyes

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing, immediately call the POISON HOTLINE or Doctor.

Skin

- Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before use.

Inhalation

- Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call the POISON HOTLINE or Doctor if you feel unwell.

Ingestion

- Call the POISON HOTLINE or Doctor immediately.
- Rinse mouth
- Do NOT induce vomiting.

Unknown Toxicity	0.6% of the mixture consists of ingredient(s) of unknown toxicity
Other Information	Very toxic to aquatic life with long-lasting effects
Interactions with Other Chemicals	Use of alcoholic beverages may enhance toxic effects

Section 4

First Aid Measures

Sulphuric Acid Precaution (ONLY A DANGER IF CASING IS COMPROMISED/DAMAGED)

- **Skin Exposure:** if the internal battery materials of an opened battery cell meet the skin, immediately flush with plenty of hand soap and water for at least 15 minutes. Seek medical attention if the contact area is larger or if blisters form.
- **Eye Contact:** Seek medical attention immediately. Flush thoroughly with copious amounts of water for at least 15 minutes or until medical attention arrives. Assure adequately flushing by separating the eyelid with fingers.
- **Ingestion:** Seek medical attention immediately. If the patient is still conscious, flush mouth with water, have the patient drink milk or sodium bicarbonate solution. DO NOT GIVE ANYTHING TO AN UNCONSCIOUS PERSON.
- **Inhalation:** If the potential for exposure to mist or dust occurs, remove immediately to fresh air and seek medical attention.
- **Oral Exposure:** if swallowed, DO NOT INDUCE VOMITING. Seek immediate medical attention.

Section 5

Fire Fighting Measures

Flash Point	Not applicable
Flammable Limits	LEL = 4.1% (hydrogen gas in air); UEL = 74.2%
Extinguishing Media	CO2; foam; dry chemical

Fire Fighting Procedures: Use positive pressure, self-contained breathing apparatus. Beware of acid spatter during water applications and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but note that strings of series-connected batteries may still pose a risk of electric shock even when charging equipment is shut down.

Hazardous Combustion Products: In operation, batteries generate and release flammable hydrogen gas. They must always be assumed to contain this gas which, if ignited by flame or spark, may cause battery explosion with a dispersion of casing fragments and corrosive liquid electrolyte. Carefully follow manufacturer's instructions for installation and service. Keep away all sources of gas ignition and do not allow metallic articles to simultaneously contact the negative and positive terminals of a battery.

Section 6

Accidental Release Measures

- **Leakage or Spill:** If sulphuric acid is spilled from a battery; flush the area with water, if safe to do so. Neutralise the acid with sodium bicarbonate (baking soda), sodium carbon (soda ash), or calcium oxide (lime). Do not allow un-neutralised acid into the sewage system. If safe, washing with a dishwashing solution and water is a suitable alternative neutralisation method.
- **Waste Disposal:** Neutralised acid may be flushed down the sewer. Spent batteries must be treated as hazardous waste and disposed of according to local state and federal regulations. Exhausted batteries may be sent to the appropriate recycling company. A copy of this material safety data sheet must be supplied to any scrap dealer or secondary lead smelter with the battery. Do not dispose of in regular garbage.
- **Suggested Procedure in Case of Accident:** A damaged battery may be confined by placing the battery in a strong plastic bag/container then handed to a recycling company.

Section 7

Handling & Storage

Handling

Do not carry the battery by the terminals. Do not drop the battery, puncture or attempt to open the battery case. In case of a battery unintentionally being crushed, acid-resistant gloves must be used to handle all battery components. Avoid contact with eyes and skin; avoid inhalation. Keep away from ignition sources, heat and flame, during and immediately after charge. NO SMOKING AT THE WORKSITE! Avoid prolonged overcharges in a confined area. Batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits.

Storage

Store in a cool (ambient room temperature, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid conditions that could cause arcing between battery terminals.

Charging

There is a possible risk of electric shock from charging equipment and from strings of series-connected batteries, whether they're being charged or not. Shut off power to chargers whenever not in use and before detachment of any circuit connections. Batteries

being charged will generate and release flammable hydrogen gas. The charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

Hygiene

Wash hands thoroughly before eating or smoking after handling batteries.

Section 8

Exposure Control/Personal Protection Equipment (PPE)

Lead

The toxic effects of lead are accumulative and slow to appear. It affects the kidneys and reproductive nerve system. The symptoms of lead from overexposure are anaemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite and muscle and joint pain. Exposure to lead from batteries most often occurs during lead reclaim operations through the breathing or ingestion of lead dust and fumes.

See also: http://www.mayoclinic.org/diseases-conditions/lead-poisoning/home/ovc-20275050

Lead compounds exposure limits are 0.05mg/m3.

Sulphuric Acid

Sulphuric acid is strong and corrosive. Contact with acid can cause severe burns on the skin and eyes. Ingestion of sulphuric acid will cause GI tract burns. Acid can be released if the battery case is damaged or if the vents are tampered with.

Sulphuric acid electrolyte exposure limit is mg/m3 OSHA.

Fibreglass Separators

Fibreglass is an irritant of the upper respiratory tract, skin and eyes. For exposure up to 10F/CC, MSA Comfoll with type H filter, above 10F/CC up to 50F/CC use ultra/twin type H filter. This product is not considered carcinogenic by NTP or OSHA.

Personal Protection

- **Eye:** Not necessary under normal circumstances of use for finished product.
- **Skin:** Not necessary under normal circumstances of use for finished product.
- **Respiratory:** Not necessary under normal circumstances of use for finished product.
- **Ventilation:** Not necessary under normal circumstances of use for finished product.
- **Work Practices:** Not necessary under normal circumstances of use for finished product.

Occupational exposure limits (mg/m3)

Occupational Exposure Limits (mg/m3)						
Ingredient	US OSHA	US ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Inorganic forms of: **LEAD** **TIN** **CALCIUM**	0.05 2 N/A	0.05 2 N/A	0.05 2 N/A	0.05 2 N/A	0.05 2 N/A	0.15(a) 2(b) N/A
Electrolyte (hydrogel: sulphuric acid) (diluted sulphuric acid in solid state, % acid: 38.5%)	1	0.2	1	1	0.2	0.05
AGM Separator	2.4 to 2.5g/ cm3/%SiO2	N/A	6	6(c)	10(c)	0.1

N/A = Not Applicable

a) As inhalable aerosol based on OEL for Belgium

b) Thoracic fraction

Engineering Controls (Ventilation)

Store and handle in well-ventilated areas. If mechanical ventilation is used, components must be acid-resistant. Handle batteries cautiously. Make certain vent caps are on securely. If the battery case is damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when charging or handling batteries.

Hygiene Practices

Wash hands thoroughly before eating, drinking or smoking after handling batteries.
Respiratory Protection (NIOSH/MSHA approved)
None required under normal conditions. When concentrations of sulphuric acid mist are known to exceed PEL, use NIOSH or MSHA approved respiratory protection.

Skin Protection

None required under normal conditions. If the battery case is damaged, rubber or plastic acid-resistant gloves with an elbow-length gauntlet.

Eye Protection

None required under normal conditions. If the battery case is damaged, chemical goggles or face shield.

Other Protection

Under severe exposure or emergency conditions, wear acid-resistant clothing, gloves and boots. In an area where water and sulphuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with an unlimited water supply.

VALEN Powering Excellence

Section 9

Physical/Chemical Properties

Physical Data

Component	Density	Melting Points	Solubility (H2O)	Odour	Appearance
Lead	11.34	327.4°C (boiling)	None	Odourless	Silver-grey Material
Lead Sulphate	6.2	107°C (boiling)	40mg/1 (15°C)	Odourless	White Powder
Lead Dioxide	9.4	290°C (boiling)	None	Odourless	Brown Powder
Sulphuric Acid	About 1.3	About 114°C (boiling)	100%	Acidic	Clear Colourless Liquid
Fibreglass Separator	N/A	N/A	Slight	Toxic	White Fibrous Glass
Polyethylene Separator	N/A	N/A	Slight	Toxic	White Fibrous Glass
478 Polystyrene	N/A	N/A	None	Odourless	White Fibrous Glass

Flammability Data

Component	Flashpoint	Explosive Limits	Comments
Lead	None	None	
Sulphuric Acid	N/A	None	
Hydrogen		4% to 74.2%	Sealed batteries can emit hydrogen only if over charged (float voltage >2.4VPC)
Fibreglass Separator	None	N/A	Toxic vapours may be released. In case of fire, wear self-contained breathing apparatus.
Polyethylene Separator	None	N/A	
478 Polystyrene	None	N/A	Temp. over 300°C (572°F) may release combustible gases. In case of fire, wear positive pressure self-container breathing apparatus.

Section 10

Stability and Reactivity

Stability	Stable under normal temp. and pressures
Conditions to Avoid	Shorting; use only approved charging methods. Do not puncture the battery case. Strong oxidant, corrosives.
Hazardous Reactions	N/A
Decomposition	N/A
Hazardous Polymerisation	Will not occur

Section 11

Toxicological Data

Routes of Entry

- **Electrolyte:** Harmful by all routes of entry.
- **Lead Compounds:** Hazardous exposure can occur only when the product is heated above the melting point, oxidised or otherwise processed or damaged to create dust, vapour or fume.

Acute Toxicity

Inhalation LD50

- **Electrolyte:** LC50 rat: 375mg3; LC50: guinea pig: 510mg/m3
- **Elemental Lead:** Acute toxicity point estimate: 4500ppmV (based on lead bullion)

Oral LD50

- **Electrolyte: rat:** 2410mg/kg
- **Elemental Lead:** Acute toxicity estimate (ATE) = 500mg/kg body weight (based on lead bullion)

Inhalation

- **Electrolyte:** Breathing of sulphuric acid vapours or mists may cause severe respiratory irritation.
- **Lead Compounds:** Inhalation of lead dust or fumes may cause irritation of the upper respiratory tract and lungs.

Ingestion

- **Electrolyte:** May cause severe irritation of mouth, throat, oesophagus and stomach.
- **Lead Compounds:** Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systematic toxicity.

Skin Contact

- **Electrolyte:** Severe irritation, burns and ulceration.
- **Lead Compounds:** Not absorbed through the skin.

Eye Contact

- **Electrolyte:** Severe irritation, burns and ulceration.
- **Lead Compounds:** May cause eye irritation.

Additional Information

- **Medical conditions generally aggravated by exposure:** Overexposure to sulphuric acid may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte (water and sulphuric acid solution) with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte (water and sulphuric acid solution) with eyes may damage the cornea and/or cause blindness. Lead and its compounds can aggravate some forms of kidney, liver and neurologic diseases.
- **Additional health data:** All heavy metals, including the hazardous ingredients in this product, are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate precaution such as ventilation and respiratory protection covered in section 8. Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, smoking or leaving the worksite. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home nor laundered with personal clothing.

Section 12

Ecological Information

Lead and its compounds can result in a threat if released into the environment. Lead may occur as absorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in the soil, resulting in little mobility. Lead may be immobilised by ion exchange with hydrous oxides or by chelation with humic or fluvic acids in the soil. Lead (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

Section 13

Disposal Considerations

Appropriate Method of Disposal

Valen batteries are 100% recyclable by any licensed reclamation operation.
Send to a lead recycling facility that follows applicable Federal, State and local regulations for routine disposal of spent or damaged batteries. The distributor/user is responsible to know that 'spent' and/or 'damaged' batteries (scrap batteries) are disposed of in an environmentally sound way in accordance with all applicable Federal, State and Local environmental regulations.

DO NOT PLACE BATTERIES IN GENERAL GARBAGE!

Section 14

Regulatory & Transportation Information

According to the OSHA Hazard Communication Standard, Lead Acid battery's in their manufactured and supplied state are considered non-hazardous.

SEALED LEAD-ACID BATTERIES ARE NON-HAZARDOUS!

We certify that the Valve Regulated Lead Acid (VRLA) rechargeable batteries conform to the UN2800 classification as 'Batteries, wet, non-spill, and electric storage' as a result of passing the Vibration and Pressure differential test. The non-spillable lead-acid battery complies with the provisions listed in 49CFR173.159 (d) therefore must not be marked with an identification number, such as UN2800, or a hazard label such as corrosive.
For all modes of transportation, each battery outer package is labelled 'NON-SPILLABLE'.
All of the batteries are marked non-spillable.
In accordance with EU2006/66/EC Battery Directive, VRLA batteries should present the crossed-out wheeled bin of lead together with the ISO recycling symbol.

Section 15

Supplemental Information

Valen batteries comply with the regulations for dangerous goods. As per IATA Dangerous Good Regulations, Special Provision A67. Non-spillable batteries are considered to be non-circuit when packed for transportation.

VALEN BATTERIES MEET ALL THE ABOVE CRITERIA!

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