

**MATERIAL SAFETY DATA SHEET**

*VRLA (VALVE REGULATED LEAD ACID) /  
AGM (ABSORBED GLASS MATT) BATTERIES – NON SPILLABLE*

**COMPANY DETAILS**

Company: Super Start Batteries Pty Ltd  
(A.C.N. 101 683 694)  
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**1. IDENTIFICATION**

Product Name: **VRLA (VALVE REGULATED LEAD ACID) / AGM (ABSORBED GLASS MATT) BATTERIES**  
Other Names: Sealed Lead Acid Battery or AGM Battery  
Use: Starting, lighting, power, ignition for car, truck, boats, motorcycles etc  
UN Number: Exempt from 2800  
Dangerous Goods Class: Not Classified

**Physical Description/Properties**

Appearance: Sealed Rectangular plastic casing with exposed terminals for electrical connections. High weight to volume ratio.  
The sulphuric acid electrolyte is a clear, mobile liquid (Sulphuric Acid Electrolyte) sealed and non-spillable within the plastic casing.  
Boiling Point: 95°C (Sulphuric Acid Electrolyte)  
Melting Point: -7 to -70°C (Sulphuric Acid Electrolyte)  
Vapour Pressure: 13 to 22 mmHg @ 25°C (Sulphuric Acid Electrolyte)  
Specific Gravity: 1.2 to 1.3 @ 25°C (Sulphuric Acid Electrolyte)  
Flashpoint: Not Applicable (Sulphuric Acid Electrolyte)  
Lower Explosive Limit: Not Applicable (Sulphuric Acid Electrolyte)  
Upper Explosive Limit: Not Applicable (Sulphuric Acid Electrolyte)  
Solubility in Water: 100% (Sulphuric Acid Electrolyte)

**Other Properties**

Sulphuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulphur trioxide gas, strong oxidisers and water. Contact with metals may produce toxic sulphur dioxide fumes and may release flammable hydrogen gas.  
Lead Compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.

**Hazardous Ingredients**

| <u>Material</u> | <u>CAS Number</u> | <u>Proportion by Weight</u> |
|-----------------|-------------------|-----------------------------|
| Lead            | 7439-92-1         | 35 – 60%                    |
| Sulphuric Acid  | 7664-93-9         | 20 – 45%                    |
| Lead Dioxide    | 1309-60-0         | 12 – 30%                    |

## 2. HEALTH HAZARD INFORMATION

### Health Effects

#### Acute:

- Swallowed: Sulphuric acid - Corrosive and causes severe burns. May cause severe irritation of mouth, throat, oesophagus and stomach.
- Lead compounds - Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhoea and severe cramping.
- Eye: Sulphuric acid - Severe irritation, burns, cornea damage, blindness.
- Lead compounds - May cause eye irritation.
- Skin: Sulphuric acid - Severe irritation, burns and ulceration.
- Lead compounds - Not readily absorbed through the skin.
- Inhaled: Sulphuric acid - Breathing of vapours or mists may cause respiratory irritation.
- Lead compounds - Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lung.

#### Chronic:

- Sulphuric acid: Principal routes of exposure are skin contact with acid contents, eye contact with acid contents, inhalation of acid mists generated when overcharging occurs. Repeated minor exposure of acid mist can cause erosion of tooth enamel, inflammation of nose, throat and bronchial tubes.
- Lead compounds: May cause constipation, weight loss, anaemia, fatigue, kidney damage, pain in joints, neuropathy (particularly of the motor nerves) and reproductive changes in male and female.

#### First Aid:

- Swallowed: Sulphuric acid – Do not induce vomiting. Give a glass of water. Seek immediate medical assistance.
- Eye Contact: Sulphuric acid – Immediately and continuously wash with water for 15 minutes. Seek immediate medical assistance.
- Skin Contact: Remove contaminated clothing and wash skin thoroughly with water. Seek medical assistance if symptoms persist.
- Inhaled: Sulphuric acid – Apply artificial resuscitation and seek immediate medical assistance if not breathing.
- Lead compounds – Gargle, wash nose and lips, seek immediate medical assistance.
- First Aid Facilities: Access to a sufficient supply of potable water may be necessary.
- Advice to Doctor: Treat symptomatically.

### 3. PRECAUTIONS FOR USE

|                       |  |
|-----------------------|--|
| Exposure Standard:    | Workplace Exposure Standard for Metallic Lead is 0.15 mg/m <sup>3</sup> in air.<br>Workplace Exposure Standard for Sulphuric acid is 1 mg/m <sup>3</sup> in air.   |
| Engineering Controls: | Use only in a well ventilated area.  |
| Work Practices:       | Batteries are heavy, appropriate material handling equipment and techniques should be used.  |
| Personal Protection:  | Respirator Type - Not applicable under normal use.<br>Glove Type - When handling Sulphuric acid, wear impervious PVC acid resistant gloves with elbow length gauntlet.<br>When handling lead, wear leather or similar type work gloves.<br>Eye Protection - When handling Sulphuric acid, wear chemical goggles/face shield.<br>Clothing - When handling batteries, wear safety boots. |
| Flammability:         | Under some operating conditions or Sulphuric acid contact with most common metals, flammable hydrogen gas can be liberated, it is recommended that 2% hydrogen concentration is not exceeded. Do not use close to ignition sources. Use in a well ventilated area.   |

### 4. SAFE HANDLING INFORMATION

|                       |   |
|-----------------------|---|
| Storage Requirements: | <ul style="list-style-type: none"><li>- Protect from accidental short-circuit.</li><li>- Keep dry. Store in original containers. Keep containers securely sealed.</li><li>- No smoking, naked lights or ignition sources.</li><li>- Store in a cool, dry, well ventilated area.</li><li>- Store away from incompatible materials, including combustibles, organic materials and strong reducing agents.</li><li>- Protect containers against physical damage. Check regularly for leaks.</li><li>- Observe manufacturers storing and handling recommendations.</li><li>- Avoid strong reducing agents, sulphur trioxide gas, strong oxidizer.</li></ul> |
| Transport:            | Super Start VRLA or AGM (Absorbed Glass Matt) batteries meet test specifications for "non-spillable electric storage batteries", as required by D.O.T., 49 CFR 173.159(d), and IMO/IMDG, and ICAO/IATA packing instruction 806 and note A67; therefore, are non-regulated when protected against short circuits, kept upright, and securely packaged.<br><br>The battery and the outer packaging must be plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY".   |
| Spills:               | Wear personal safety equipment at all times as detailed in "Personal protection". Establish a hazard zone. Bund and neutralise liquid with Soda Ash or Sodium Bicarbonate. Slowly pour neutralising powder from the outside of the spill inwards. Continue until the entire spill is covered. Wait until the reaction is complete. Absorb excess liquid with dry earth, sand or a similar material.   |
| Disposal:             | Refer to the local waste disposal authority for disposal of lead compounds, sulphuric acid and spent soda ash/sodium bicarbonate. Spent batteries should be sent to a secondary lead smelter for recycling.   |

## Fire/Explosion Hazard

### Fire Fighting

#### Recommendations:

Use Carbon Dioxide or Dry Chemical extinguishers. Firefighters to wear acid-resistant full protective clothing, including rubber footwear and self-contained breathing apparatus. Water (fine spray or fog) should not be used unless from a safe distance due to vigorous and exothermic reaction which will result.

### List of Dangerous

#### Decomposition or

#### Combustion Products:

Sulphuric acid may decompose to sulphur trioxide, carbon monoxide, sulphuric acid mist, sulphur dioxide and hydrogen. Exposure of lead compounds to high temperatures are likely to produce toxic metal fume, contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas. Exposure of plastic container and components to high temperatures may produce carbon dioxide, carbon monoxide, noxious aldehydes (eg. formaldehyde and acrolein), ketones, methane and ethane.

## 5. CONTACT POINT

### CONTACT INFORMATION

#### Australian Poisons Information Centre (24 Hour Service)

Telephone: 13 11 26

#### Police or Fire Brigade (24 Hours)

Telephone: 000

#### Ambulance (24 Hours)

Telephone: 000

## 6. DATE OF ISSUE

2<sup>nd</sup> March 2015

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