



## **Sealed Lead Acid Battery Pack Safety Data Sheet**

This product is supplied and intended to be used in a sealed state. This means it is not strictly subject to the GHS and SDS requirements. This document is provided to customers as reference information for the safe handling of the product. The information and recommendations documented are made in good faith and are believed to be accurate at the date of preparation. Adam Equipment source batteries from a number of manufacturers. The generic composition is given here as best indication but may vary slightly depending on the exact supplier. All information on this sheet is considered valid for all brands and model of SLA battery used.

### **Section 1, Identification**

**Product Name: Valve Regulated Sealed Lead-Acid Battery (VRLA, SLA)  
Lead-Acid Battery Non-spillable  
Absorbed Electrolyte Battery**

Fitted as internal rechargeable power source in weighing scales.

#### **COMPANY INFORMATION**

<b>UK &amp; EUROPE</b>	<b>USA</b>
<b>Adam Equipment Co. Ltd.</b> Maidstone Road, Kingston, Milton Keynes MK10 0BD United Kingdom Tel: +44 (0)1908 274545	<b>Adam Equipment Inc</b> 1 Fox Hollow Road, Oxford CT 06478 USA Tel: 203-790-4774
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### **Section 2, Hazard(s) identification**

**DANGER!**

#### **Electrical Safety**

Due to the battery's low internal resistance and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

**This product is a sealed item which should not normally cause exposure to internally contained substances during transport or use. The following hazard information applies only in cases where the item has become damaged and has allowed contents to become exposed:**



Category:	GHS Codes	Description
<b>Health: STOT RE 2</b> Acute Tox. 4 Repr. 1A Skin Corr. 1A Flamm Gas 1 Aquatic Acute 1 Aquatic Chronic 1	H302/H312/H332 H314 H315/H318 H302/H313/H332 H350 H360 H373 H220 H203 H410 P260 P314 P301/330/331 P303/361/353 P304/340 P305/351/338 P311 H36	Harmful if swallowed, inhaled, or in contact with skin. Acid causes severe skin burns and eye damage. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns. May cause cancer if ingested or inhaled. May damage fertility or the unborn child if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure if ingested or inhaled. Extremely flammable gas (hydrogen). May form explosive air/gas mixture during charging. Explosive, fire, blast or projection hazard. Very toxic to aquatic life with long lasting effects. Do not breathe dust/fume/gas/mist/vapors/spray. If exposed/concerned, or if you feel unwell seek medical attention/advice. <b>IF SWALLOWED OR CONSUMED:</b> rinse mouth. Do NOT induce vomiting. Call a poison center/doctor if you feel unwell. <b>IF ON CLOTHING OR SKIN (or hair):</b> Remove/Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. <b>IF INHALED:</b> Remove person to fresh air and keep comfortable for breathing. <b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a <b>POISON CENTER</b> or doctor/physician. May cause harm to breast-fed children.
<b>Handling:</b>	P201 P202 P210 P263 P264 P270 P280	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.



	P403/P405	Store locked up, in a well-ventilated area, in accordance with local and national regulation.
	P271	Use only outdoors or in a well-ventilated area.
	P501	Dispose of contents/container in accordance with local & national laws.
	P201	Keep out of reach of children.
<p><b>WARNING:</b> Batteries subjected to abusive charging at excessively high currents for prolonged periods of time without vent caps in place may create a surrounding atmosphere of an offensive, strong inorganic acid mist containing sulfuric acid.</p>		
<p><b>Reactivity:</b> highly reactive with water and alkalis</p>		

### Section 3, Composition/Information on ingredients

Main Composition: Lead (Pb, PbO<sub>2</sub>, PbSO<sub>4</sub>), Sulfuric acid, Fiberglass Separator, ABS Plastic, Terminal (nickel-plated steel)

COMPONENTS	%W	CSHAPEL(TLV)	LD50 Oral	LD50 Inhalation	LD Contact
Lead(Pb,PbO <sub>2</sub> ,PbSO <sub>4</sub> )	70%	N/A	<500mg/kg	N/A	N/A
Sulfuric acid	20%	1mg/m <sup>3</sup>	2.135mg/kg	N/A	N/A
Fiberglass separator	5%	N/A	N/A	N/A	N/A
ABS	5%	N/A	N/A	N/A	N/A

### Section 4, First-aid measures

#### SULFURIC ACID PRECAUTIONS

Skin Contact: Flush with water, see physician if contact area is large or if blisters form.

Eye Contact: Call physician immediately and flush with water until physician arrives.

Ingestion: Call physician. If patient is conscious, flush mouth with water, let patient drink milk or sodium bicarbonate solution.

### Section 5, Fire-fighting measures

Components	Flashpoint	Explosive limits	Comments
Lead	None	None	
Sulfuric acid	None	None	



Hydrogen	268°C	4%-72.4%	Sealed batteries can emit hydrogen if over charged(float voltage>2.40VPC)
Fiberglass separator	N/A	N/A	Toxic vapors may be released. In case of fire, wear self-contained breathing apparatus.
ABS Plastic	None	N/A	Temp. over 300°C (573°F) may release combustible gases. In case of fire: wear positive pressure self-contained breathing apparatus.

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## Section 6, Accidental release measures

### Steps to take in case of leak or spill:

If sulfuric acid is spilled from a battery, neutralize acid with bicarbonate (baking soda), sodium carbon (soda ash), or calcium oxide (lime). Flush area with water and discard to the sewage system. Do not allow neutralized acid into sewage system.

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## Section 7, Handling and storage

- 1) Examine the appearance of the battery before use.
- 2) Store the battery in a cool place.
- 3) Recharge the battery that has been stored more than 3 months.
- 4) Charge the battery in a well-ventilated environment.
- 5) Secure the battery firmly installed in equipment.
- 6) Don't load and unload the battery roughly.
- 7) Prohibit to dissecting the battery.
- 8) Don't attempt to use a cracked, deformed or leaky battery.
- 9) Don't subject the battery to excess vibration or violent jolted.
- 10) Prohibit to burning the battery or put it near the fire.

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## Section 8, Exposure controls/personal protection

SKIN: Rubber gloves, Apron

RESPIRATORY: Respirator (for lead)

EYES: Safety goggles, Face Shield

COMMENTS: Protective equipment must be worn if the battery is cracked or otherwise damaged. A respirator should be worn during reclaim operations if the TLV is exceeded.

## Section 9, Physical and chemical properties

Components	Density	Melting Points	Solubility in Water	Odor	Appearance
Lead	11.34	327.4°C	None	None	Silver-Grey Metal
Lead Sulfuric	6.2	1070°C	40mg/L(15°C)	None	White Powder
Lead dioxide	9.4	290°C	None	None	Brown Powder
Sulfuric acid	About 1.3	114°C	100%	Acidic	Clean Colorless liquid
Fiberglass separator	N/A	N/A	Slight	Toxic	White Fibrous Glass
ABS Plastics	N/A	N/A	None	None	Solid plastics

## Section 10, Stability and reactivity

COMPONENT	Sulfuric Acid
STABILITY	Stable at all temperature
COLYMERIZATION	Will not polymerize
INCOMPATIBILITY	Reactive metals, strong bases, most organic compounds
DECOMPOSITION PRODUCTS	Sulfuric dioxide, trioxide, hydrogen sulfide, hydrogen
CONDITIONS TO AVOID	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals.

## Section 11, Toxicological information

**LEAD:** The toxic effects of lead are accumulative and slow to appear. It affects the kidneys, reproductive, and central nervous systems. The symptoms of lead overexposure are anemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, and muscle and joint pain. Exposure to lead from a battery most often occurs during lead reclaim operations through the breathing or ingestion of lead dust or fumes.

**SULFURIC ACID:** Sulfuric acid is a strong corrosive. Contact with acid can cause severe burns on the skin and in eyes. Ingestion of sulfuric acid will cause GI tract burns. Acid can be released if the battery case is damaged or if vents are tampered with.

**FIBERGLASS SEPARATOR:** Fiber glass is an irritant of the upper respiratory tract, skin and eyes. For exposure up to 10F/CC use MSA Camphol with type H filter. Above 10F/CC up to 50F/CC use Ultra-Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA.

## Section 12, Ecological information

May be subject to local legislation.

Persistence/degradability :

Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

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## Section 13, Disposal Considerations

Dispose of batteries according to regional regulations.

Recommended methods for safe and environmentally preferred disposal:

Product: Do not throw out a used battery cell. Recycle it through the recycling company.

Contaminated packaging: Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates them, dispose them as industrial wastes subject to special control.

Neutralized acid may be flushed down the sewer. Spent batteries must be treated as hazardous waste and disposed of according to local, state, and federal guidelines. A copy of this MSDS must be supplied to any scrap dealer or secondary lead smelter with battery.

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## Section 14, Transport information

All SLA batteries fitted to Adam Equipment products are valve regulated lead acid (VRLA) batteries. Adam Equipment certify that all Rechargeable Sealed Lead Acid batteries fitted to Adam Equipment products conform to the UN2800 classification as "Batteries, wet, Non-Spillable, and electric storage", packing group III, and have passed vibration, pressure differential and free flowing acid tests under 49 CFR173.159a, the vibration and pressure differential test under IATA Packing Instruction 872, meet IATA Special Provisions A48, A67, A164 & A183, and IMDG Special Provisions 238.1 & 238.2. The batteries are securely packaged, protected from short circuits and labelled "Non-Spillable."



Adam Equipment VRLA batteries are exempt from DOT Hazardous Material Regulations, IATA Dangerous Goods Regulations, and IMDG Code.

US DOT, IMO, IATA

Exempted from the requirements because batteries have passed the vibration and pressure differential performance tests, and ruptured case test for non-spillable designation, and when packaged for transport the terminals are protected from short circuit.

The words “Not Restricted” and the Special Provision numbers must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.

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## Section 15, Regulatory information

Regulations specifically applicable to the product are known to include:

U.S. HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD:

LEAD – YES, ARSENIC – YES, SULFURIC ACID – YES

INGREDIENTS LISTED ON TSCA INVENTORY: YES

CERCLA SECTION 304 HAZARDOUS SUBSTANCES: LEAD – YES, RQ: N/A \*

ARSENIC – YES, RQ: 1 POUND, SULFURIC ACID – YES RQ: 1000 POUNDS

\* RQ: REPORTING NOT REQUIRED WHEN DIAMETER OF THE PIECES OF SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 100 UM (MICROMETERS).

EPCRA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE: SULFURIC ACID – YES

EPCRA SECTION 313 TOXIC RELEASE INVENTORY: LEAD – CAS NO:

7439-92-1, ARSENIC – CAS NO: 7440-38-2, SULFURIC ACID – CAS NO:

7664-93-9

STATE REGULATIONS (US):

California Proposition 65: This product contains lead, lead compounds, and other chemicals, all known to state to cause cancer and reproductive harm: Lead (CAS# 7439-92-1).

Distribution into Quebec to follow Canadian Controlled product Regulations (CPR) 24(1) and 24(2).

Wastes Management and Public Cleaning Law (Japan)

Law for Promotion Effective Utilization of Resources (Japan)

EU Battery Directive 2006/66/EC. Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

**Other regulations local to the place of use may apply.**

## Section 16, Other information (Prepared May 2016. Rev C.)

This PSDS is provided to customers as reference information in order to handle batteries safely. It is necessary for the customer to take appropriate measures depending on the actual situation such as the individual handling based on this information.

### References

1. Globally Harmonized System of Classification and Labeling of Chemicals (GHS, Rev.6 2015).
  2. Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations (Rev. 19).
  3. IATA Dangerous Goods Regulations 57th Edition (2016)
  4. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR 2015)
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The data in this Material Safety Data Sheet relates only to the specific material designated herein.

### **Engineering Controls:**

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant.

### **Work Practices:**

Handle batteries cautiously to avoid spills. Make certain vent caps are on securely. Avoid contact with internal components. Wear protective clothing when filling or handling batteries.

### **Respiratory Protection:**

None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.

### **Protective gloves:**

Rubber or plastic acid-resistant gloves with elbow-length gauntlet.

### **Eye Protection:**

Chemical goggles or face shield.

### **Other Protection:**

Acid-resistant apron. Under severe exposure or emergency conditions, wear acid-resistant clothing and boots.

### **Emergency Flushing:**

In areas where sulfuric acid is handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.