

Material Safety Data Sheet

Data Sheet No: VRLA AGM Issue 4

Date Issued: January 5th, 2014

1 Identification of the substance

Product name: Sealed Lead Acid Battery

Trade name: Lead acid battery

2 Composition / Ingredient Data

Hazardous Components Chemical Identity	CAS Number	OSHA PEL	ACGIH TLV	Percent By Weight	EC Number	Average
Lead	7439-92-1	50 µg/m ³	50 µg/m ³	45-55%	231-100-4	50%
Sulfuric Acid	7664-93-9	100 µg/m ³	1.00 mg/m ³	19-25%	231-639-5	22%
Lead Oxide	1309-60-0	50 µg/m ³	500 µg/m ³	19-23%	215-174-5	21%

	Risk Phrases	Safety Phrases
Sulphuric Acid	R61,62,20/22,33	S1/2,S26,S30,S45
Lead Oxide	R35	None

3 Hazards Identification

Odour: Not applicable

Appearance: Article as described above

Weight High Density/ Good lifting technique required

Hazards refer to internal component, i.e. lead and sulphuric acid

Contact with eyes: Causes irritation

Contact with skin: May cause dermatitis

Inhalation: May cause irritation

Ingestion: Can cause damage to the kidneys

4 First Aid Measures

Contact with skin: Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water.

Contact with eyes: If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes.

Seek immediate medical attention.

Ingestion: Do not induce vomiting.

Seek immediate medical attention.

Inhalation: Remove patient to fresh air.
Seek medical attention if irritation persists.

5 Fire-Fighting Measures

Auto-ignition point (Hydrogen) 580° C at 760 mm Hg
Wear positive-pressure breathing apparatus
In case of fire use foam, carbon dioxide or dry agent (S43)
Flash point Hydrogen 259° C
Flammable Limits in air, Lower 4.1%
% by 3/4 vol. (Hydrogen)

Fire/explosion

Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion).

6 Accidental Release Measures

Immediate Actions: Shut off all ignition sources
Clean Up Actions: Neutralise with soda ash
Place in appropriate container
Ventilate area
Do not empty into drains (S29)

7 Handling and Storage

Under normal conditions of battery use, internal components will not present a health hazard

Handling: Keep away from heat and sources of ignition
Wash hands thoroughly after use
Avoid sparks
Avoid contact with metal jewellery and watches etc.
Do Not Remove Vent Caps
Do not double stack industrial batteries, it may cause damage.

Storage: Keep in cool and dry & Protect from heat.
Store lead acid batteries with adequate ventilation.
Room ventilation is required for batteries utilised for standby power generation.
Never re-charge batteries in an unventilated, enclosed space.

8 Exposure Controls / Personal Protection

Personal protection: Wear safety shoes with toe protector.
Where internal components are liberated use rubber or neoprene boots.
Wear goggles/safety glasses giving complete eye protection.
Respiratory protection may be required under exceptional circumstances when excessive air contamination exists.
Wear PVC mitts, gloves or gauntlets.

Exposure Limits: Lead OES / LTEL - ppm 0.15 mg/m³
Lead Dioxide OES / LTEL - ppm 0.15 mg/m³

9 Physical and Chemical Properties

Odour: Not applicable.
Appearance: Sealed Valve Regulated lead Acid Battery
State under normal temp: Solid
Flash point (Hydrogen): 259° C

Internal components

pH - (Sulphuric acid): 1.3 .
Boiling point: Battery Electrolyte 110° C, Lead 1755° C
(at 760 mm/Hg)
Melting point: Lead 327.4° C
Vapour pressure: 11.7
Vapour density: Battery Electrolyte 3.4, (air =1)
Specific gravity: Battery Electrolyte 1.3 g/cm³. (water =1)
Auto-ignition point: 580° deg C at 760 mm/Hg.
Water solubility: Battery Electrolyte is 100% soluble in water

10 Stability and Reactivity

VRLA Batteries are considered stable at normal conditions.
Keep away from heat and sources of ignition.
Incompatible with reducing agents. Incompatible with organic agents.
Decomposition products may include hydrogen.
Decomposition products may include sulphur oxides.

11 Toxicological Information

Danger of cumulative effects. (R33)
May cause severe irritation.
May cause gastro-intestinal disturbances.
Can cause damage to the mucous membranes.

12 Ecological Information

Ecotoxicology - no information available

13 Disposal Considerations

Classification: This material and/or its container must be disposed of as hazardous waste.

Disposal considerations: Do not discharge into drains or the environment, dispose to an authorised waste collection point.

14 Transport Information

battery is not regulated for transportation because it has been tested and passed the tests specified in 49 CFR 173.159(a), IATA Packing Instruction A67, and IMDG Special Provision 238.

§173.159a Exceptions for non-spillable batteries.

(a) Exceptions for hazardous materials shipments in the following paragraphs are permitted only if this section is referenced for the specific hazardous material in the §172.101 table or in a packaging section in this part.

(b) Non-spillable batteries offered for transportation or transported in accordance with this section are subject to the incident reporting requirements. For transportation by aircraft, a telephone report in accordance with §171.15(a) is required if a fire, violent rupture, explosion or dangerous evolution of heat (i.e., an amount of heat sufficient to be dangerous to packaging or personal safety to include charring of packaging, melting of packaging, scorching of packaging, or other evidence) occurs as a direct result of a non-spillable battery. For all modes of transportation, a written report in accordance with §171.16(a) is required if a fire, violent rupture, explosion or dangerous evolution of heat occurs as a direct result of a non-spillable battery.

(c) Non-spillable batteries are excepted from the packaging requirements of §173.159 under the following conditions:

(1) Non-spillable batteries must be securely packed in strong outer packagings or secured to skids or pallets capable of withstanding the shocks normally incident to transportation. The batteries must meet the requirements of §173.159(a), be loaded or braced so as to prevent damage and short circuits in transit, and any other material loaded in the same vehicle must be blocked, braced, or otherwise secured to prevent contact with or damage to the batteries. A non-spillable battery which is an integral part of and necessary for the operation of mechanical or electronic equipment must be securely fastened in the battery holder on the equipment.

(2) The battery and outer packaging must be plainly and durably marked "NON-SPILLABLE" or "NON-SPILLABLE BATTERY." The requirement to mark the outer package does not apply when the battery is installed in a piece of equipment that is transported unpackaged.

(d) Non-spillable batteries are excepted from all other requirements of this subchapter when offered for transportation and transported in accordance with paragraph (c) of this section and the following:

(1) At a temperature of 55 °C (131 °F), the battery must not contain any unabsorbed free-flowing liquid, and must be designed so that electrolyte will not flow from a ruptured or cracked case; and

(2) For transport by aircraft, when contained in a battery-powered device, equipment or vehicle must be prepared and packaged for transport in a manner to prevent unintentional activation in conformance with §173.159(b)(2) of this Subpart.

(3) For transport by aircraft, must be transported as cargo and may not be carried onboard an aircraft by passengers or crewmembers in carry-on baggage, checked baggage, or on their person unless specifically excepted by §175.10.

[74 FR 2258, Jan. 14, 2009, as amended at 75 FR 72, Jan. 4, 2010; 77 FR 60942, Oct. 5, 2012; 78 FR 1085, Jan. 7, 2013; 78 FR 15328, Mar. 11, 2013]

15 Regulatory information

Classification and labeling. Not classified as hazardous for supply

16 Other Information

Under normal conditions of battery use, internal components will not present a health hazard. The information contained in this Safety Data Sheet is provided for battery electrolyte (acid) and lead, for exposure that may occur during battery production or container breakage or under extreme heat conditions such as fire.

Tested as per IMDG Amendment. 35-10, special provision 238 "a" and "b", Comply.

This Safety Data Sheet and the information therein does not constitute the user's own assessment of work place risk as required by other Health & Safety legislation.