

MATERIAL SAFETY DATA SHEET

Section 1: IDENTIFICATION OF THE MATERIAL

Product name:	Battery, Electric Storage, Wet, NONSPILLABLE, Non-Regulated NONSPILLABLE Absorbed Electrolyte
Part number:	UPSBATT12V9AH & UPSBATT12V7AH
Other names/Description:	Battery – Electrical Storage Valve Regulated Lead-Acid (VRLA) Battery – Absorbed Glass Mat (AGM)
Recommended use:	UPS replacement battery

Section 2: HAZARD IDENTIFICATION

HMIS of Sulphuric acid	NFPA of Sulphuric Acid
Health: 3	2
Flammability: 0	0
Reactivity: 2	1
Special Hazards: X	X

Rating Codes:

0= Insignificant, 1= Slight,
2= Moderate, 3= High, 4= Extreme

HMIS and NFPA Hazard labels are used to identify the battery(s) dilute 1.300sg sulfuric acid. The first number represents the Health hazard, second number represents Fire hazard, and the third number represents the Reactivity hazard. The fourth space identifies the hazardous material, which is acid and/or typical recommended personal protective equipment, i.e., safety glasses, rubber or neoprene gloves etc.

Risk phrases:

Sulphuric acid exposure may cause irritation of the skin, corneal damage of the eyes, irritation of the mucous membranes and upper respiratory system, including the lungs. Acute lead exposure may cause GI upset, loss of appetite, diarrhoea, constipation, fatigue, joint pain, and difficulty sleeping.

Safety phrase:

Ingestion of lead occurs by hand to mouth contamination. After handling lead or its compounds, hands must be washed prior to eating or drinking. Metallic lead cannot be absorbed through the skin.

Chronic Health Effects:

Exposure to lead may cause anaemia, kidney damage and damage to the central nervous and reproductive systems. Lead exposure may also affect developing fetuses in pregnant women. Chronic exposure to sulphuric acid may cause scarring of skin and mucous membranes, bronchitis, contact dermatitis, and erosion of tooth enamel.

California Proposition 65 Warning – Battery posts, terminals, and related accessories contain lead and lead compound chemical known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. Wash hands after handling.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components				
Component	CAS Number	OSHA PEL	ACGIH-TLV	% By Weight
* Sulfuric Acid / Battery Electrolyte 1.300 sg 40 wt %	7664-93-9	1mg/m ³	1mg/m ³ STEL	22
*Lead/Grid	7439-92-1	50 ug/m ³	150 ug/m ³	50
*Lead Oxide/Dioxide	1309-60-0	50 ug/m ³	150ug/m ³	21
*Lead Sulfate/ Anglesite	7446-14-2	50ug/m ³	150ug/m ³	<1

Section 313 (40 CFR 372) Listed Toxic Chemicals are Preceded by an*

Section 4: FIRST AID MEASURES

If Ingested/Inhaled:

- Do not induce vomiting
- Drink 8 oz. of water or milk
- If difficulty in breathing occurs, remove to fresh air, give CPR if necessary
- Seek medical attention immediately

If in eyes/on skin:

- Flush the affected area with water for 15 minutes
 - Remove contaminated clothing
 - If irritation continues, seek medical attention
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Section 5: FIRE FIGHTING MEASURES

FIRE AND EXPLOSIVE PROPERTIES:

Hydrogen Flash point: -259°C

Hydrogen Auto ignition point: 580°C

Hydrogen Flammable Limits in Air (% by Volume): LEL: 4.1 UEL: 74.2

Lower Explosion Limit (LEL), Upper Explosion Limit (UEL)

Extinguishing media:

Dry Chemical, Foam or CO₂

Special Protective equipment:

Use Positive Pressure, self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Hydrogen and Oxygen gases are produced in cells during normal battery operation. Ventilate Area.

Section 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF BATTERY IS BROKEN:

Neutralize exposed battery parts with soda ash or sodium bicarbonate until fizzing stops, PH should be at neutral 6-8. Provide adequate ventilation. Heat, carbon dioxide and hydrogen gas may be given off during neutralization. Collect residue in a suitable container. Place the broken battery in a heavy-duty plastic bag or other non-metallic container. Properly recycle all battery residue and parts.

Section 7: HANDLING AND STORAGE

Store in a cool; dry area away from combustibles. Do not store in sealed, unventilated areas. Avoid overheating and overcharging. Do not use organic solvents or other than manufactures recommended cleaners on the batteries.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

General room ventilation is sufficient during normal use and handling. Do not install these batteries in a sealed, unventilated area.

Personal Protective Equipment (DURING INSTALLATION OR IN THE EVENT OF BATTERY BREAKAGE):

Respiratory Protection (Specify Type) –

Protective Gloves – Rubber or neoprene

Eye Protection – Chemical goggles, safety glasses with side shields and or a full-face shield.

Other Protective Clothing or Equipment - Acid resistant apron or clothes.

WORK PRACTICES: Use standard lead-acid battery practices. Do not wear metallic jewelry when working with batteries. Use non-conductive tools only. Discharge static electricity prior to working on a battery. Maintain eyewash, fire extinguisher and emergency communication device in the work area.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour:

Acid is a clear to cloudy liquid. Lead is metallic grey in color. Formed lead dioxide is a dark brown in color with a slight acidic odor.

Vapour Pressure: 13.8 mm Hg @ 25°C

Vapour Density: (Air=1) 3.4

Boiling point/range: 110°C to 112°C

Melting point: N/A

Solubility in water: N/A

Specific gravity (H₂O=1) or density: @70°F 1.300 +/- 0.030

Flashpoint: -259°C

Upper and lower flammable (explosive) limits in air: LEL: 4.1 UEL: 74.2

Hydrogen Auto ignition point: 580°C

Section 10: STABILITY AND REACTIVITY

Chemical Stability: This battery and contents are stable.

Conditions to avoid: Overheating, overcharging which results in

Incompatible Materials (materials to avoid):

Strong alkaline materials, conductive metals, organic solvents, spark or open flame.

Hazardous by-products:

Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. In fire, may emit CO, CO₂ and Sulphur Oxides.

Hazardous Polymerization: Will not occur

Section 11: TOXICOLOGICAL INFORMATION

LEGEND batteries are a sealed, recombinant design that require no water replacement throughout their service life, thus no contact is made with the battery's internal components or chemical hazards. Under normal use and handling, these batteries do not emit regulated or hazardous substances.

	Administration Route	Dose	Test Animal
LD 50	Oral	2140 mg/kg	Rat
LD Lo	Unreported	135 mg/kg	Man
LC 50	Inhalation	510 mg/m ³	Rat

Carcinogenicity: The International Agency on Cancer (IARC) has classified "strong inorganic acid mists containing sulphuric acid" as a category 1 carcinogen (inhalation), a substance that is carcinogenic to humans. This classification does not apply to the liquid forms of sulphuric acid

contained within the battery. Misuse of the product, such as overcharging, may result in the generation of sulphuric acid mist at high levels.

Please refer to Section 3 for available information on potential health effects.

Section 12: ECOLOGICAL INFORMATION

Please refer to Section 6 for information regarding accidental releases and Section 15 for regulatory reporting information.

Section 13: DISPOSAL CONSIDERATION

Waste Disposal Method:

Send to lead smelter for reclamation following applicable Federal, State and Local regulations. Product can be recycled along with automotive (SLI) lead-acid batteries.

Section 14: TRANSPORT INFORMATION

All LEGEND batteries, when transported by air, surface or by vessel are identified as "Battery, Electric Storage, Wet, NONSPILLABLE, and Not Regulated".

The battery(s) must be identified as above on the Bill of Lading and properly packaged with their terminals protected from short circuit. NA or UN numbers do not apply.

LEGEND battery(s) warning label identifies each battery as NONSPILLABLE. LEGEND battery(s) preprinted cartons identify each battery as NONSPILLABLE.

LEGEND battery(s) shipped without LEGEND cartons (bulk packed) need to be identified as NONSPILLABLE or NONSPILLABLE BATTERY on the outer packaging.

Air: LEGEND batteries meet the conditions in IATA/ICAO Special Provision A67 & meeting the Requirements of Packing instruction 806

Surface: LEGEND batteries meet the conditions for DOT Haz Mat Regulations CFR-Title 49 parts 171-189.

Vessel: LEGEND Batteries meet the conditions of IMDG exception 238.

Section 15: REGULATORY INFORMATION

See 29 CFR 1910.268(b) (2)

Section 16: OTHER INFORMATION

The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and to develop work practice procedures for a safe work environment.

DISCLAIMER: The information contained herein, is to the best of our knowledge and belief; accurate. However, because the condition of handling and use are beyond our control, **we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all federal, state and local laws and regulations.**