Ascent Battery Supply, LLC
1325 Walnut Ridge Drive
Hartland, WI 53029

Safety Data Sheet (SDS) — SEALED LEAD ACID: AGM

The information and recommendations below are believed to be accurate at the date of document preparation. Ascent Battery Supply, LLC makes no warranty or merchantability or any other warranty, express or implied, with respect to this information and assumes no liability resulting from its use. This SDS provides guidelines for safe use and handling of product. It does not, and cannot, advise all possible situations. All specific uses of this product must be evaluated by the end user to determine if additional safety precautions should be taken.

The following information is provided as a courtesy to Ascent customers.

Section 1 – Identification

Product Name	AGM Battery: Stand-By, UPS, High-Rate, Telecomm
Common Name(s)	Absorbed Glass Mat(AGM) - Battery
Synonyms	SLA, VRLA, AGM, Absorbed Glass Mat, Sealed Recombinant
DOT Description	Wet Battery, non-spillable
Chemical Name	Sealed Lead Acid Battery, Secondary Battery
Distributed By	Ascent Battery Supply, LLC
Address	1325 Walnut Ridge Drive, Hartland, WI 53029
Emergency number	CHEMTREC 1-800-424-9300
International Emergency Number	CHEMTREC +1 703-741-5970 (Collect)

Section 2 – Hazard(s)

GHS Classification:

Health	Environmental	Physical
Acute Toxicity – Category 4	Aquatic Chronic – 1	Explosive Chemical, Division 1.3
Skin Corrosion – Category 1A	Aquatic Acute - 1	
Eye Damage – Category 1		
Reproductive – Category 1A		
Carcinogenicity (lead) – Category 1A		
Carcinogenicity (arsenic) – Category 1A		
Carcinogenicity (lead mist) – Category 1A		
Specific Target Organ Toxicity (repeated exposure) – Category 2 Specific target organ toxicity, single exposure – Category 1 (respiratory system)		

Specific target organ toxicity, single exposure – single exposure – Category 3 respiratory tract irritation Specific target organ toxicity, repeated exposure – Category 1 (respiratory system)		
GHS Label Elements:		
		
Signal Word: DANGER!		

Emergency Overview - May form explosive air/gas mixture during charging. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system, and skin. Prolonged inhalation or ingestion may result in serious damage to health. Pregnant women exposed to internal components may experience reproductive/developmental effects.

Hazard Statements	
Health	Harmful if swallowed, inhaled, or in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. May damage fertility or the unborn child if ingested or inhaled. May cause cancer if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure. May cause harm to breast-fed children.
Environmental	Very toxic to aquatic life with long lasting effects.
Physical	May form explosive air/gas mixture during charging. Extremely flammable gas (hydrogen). Explosive; fire, blast or projection hazard. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Precautionary Statements	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns. Avoid contact with internal acid. Irritating to eyes, respiratory system, and skin. Avoid contact during pregnancy/while nursing.

Response	IF SWALLOWED OR CONSUMED: rinse mouth, Do NOT induce vomiting. Call a poison center/doctor. IF ON CLOTHING OR SKIN (or hair): Remove/Take off immediately all contaminated clothing and wash it before reuse. Collect spillage. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
Storage and Disposal	Store locked up, in a well-ventilated area. In accordance with local and national regulation. Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/ regional/national/international regulations. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Use only outdoors or in well ventilated area Keep out of reach of children.

Hazard(s) not otherwise classified (HNOC) – Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Supplemental information – In use, may form flammable/explosive vapor-air mixture.

SECTION 3 – COMPOSITION

Chemical Name	CAS No.	Percentage %
Lead/Lead Compounds	7439-92-1	50-75
Sulfuric Acid	7664-93-9	5-20
Tin	7440-31-5	0-1
Antimony	7440-36-0	0-0.1
Calcium	7440-70-2	0-0.15
Arsenic	7440-38-2	0-0.1
ABS/Polypropylene	9003-56-9/9003-07-0	2-10
AGM Separator	n/a	3-4

Composition Comments – All concentrations are in percent by weight.

SECTION 4 – FIRST AID MEASURES

Inhalation	**Sulfuric Acid:** Remove from exposure, move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician immediately. **Lead:** Remove from exposure, gargle, wash nose and lips. Consult physician immediately.

Eyes Contact	**Sulfuric Acid and Lead:** Flush eyes immediately with large amounts of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Consult a physician immediately.
Skin Contact	**Sulfuric Acid:** Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing, including shoes. Consult a physician if skin irritation appears. Wash contaminated clothing before reuse. Discard contaminated shoes. **Lead:** Wash immediately with soap and water.
Ingestion	Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death. Give large quantities of water. Never give anything by mouth to an unconscious person. Consult a physician immediately.

SECTION 5 – FIRE-FIGHTING MEASURES

Flash Point – Hydrogen - 259° C

Auto Ignition Temperature – Hydrogen - 580° C

Flammable Limits – LEL = 4.1% (Hydrogen Gas in air); UEL = 74.2%

Extinguisher Media – CO2; foam; dry chemical type extinguishers or water fog. In the event that a battery is ruptured and the internal components are exposed, DO NOT USE WATER. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use appropriate media for surrounding fire.

Special Fire-Fighting Procedures – Use positive pressure, NIOSH-approved self-contained breathing apparatus with full face shield. Beware of acid splatter during water application 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 risk of electric shock even when charging equipment is shut down.

Unusual Fire and Explosion Hazard – Highly flammable hydrogen gas is generated during charging and operation of batteries. If ignited by burning cigarette, naked flame or spark, may cause battery explosion with dispersion of casing fragments and corrosive li

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Protective Measures to be Taken if Material is Released or Spilled – Stop flow of material, contain/absorb small spills with dry sand, earth, and vermiculite. Do not use combustible materials. If possible, carefully neutralize spilled acid with soda ash, sodium bicarbonate, lime, ets. Wear acid-resistant clothing, boots, gloves and face shield. Do not allow discharge of un-neutralized acid to sewerLead dust should be vacuumed or wet swept into a DOT approved container. Use controls that minimize escaping or fugitive emissions. Do not use compressed air.

SECTION 7 – HANDLING AND STORAGE

Store batteries in a cool, dry, well-ventilated area: separate from incompatible materials and any activities that can generate flames, sparks, or heat. Use an insulating material, such as cardboard, between stacked layers of

batteries. Keep all metallic articles that could short the terminals away from batteries. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

Handle cautiously; avoid contact with eyes and skin.

Section 8 – exposure controls/personal protection

Respiratory Protection (NIOSH/MSHA approved) - None required under normal handling conditions. During battery formation (high-rate charge condition), acid mist can be generated which may cause respiratory irritation. Also, if acid spillage occurs in a confined space, exposure may occur. If irritation occurs, wear a respirator suitable for protection against acid mist.

Eye Protection - If battery case is damaged, use chemical goggles or face shield worn over safety glasses.

Skin Protection - If battery case is damaged, use rubber or plastic acid-resistant gloves with elbow-length gauntlet, acid-resistant apron, clothing and boots. Safety shoes are recommended when handling batteries. All footwear must meet requirements of ANSI Z41.1 -Rev.1972

section 9 – physical/chemical properties

Boiling Point	Electrolyte: 110°C (230°F)	**Melting Point**	Lead: 327°C (621°F)
Vapor Pressure	Electrolyte: 10 mmHg	**Vapor Density**	>1
Specific Gravity (H2O=1)	Electrolyte: 1.27-1.33	**Solubility in Water**	Electrolyte: 100%
Evaporation Rate	Acid: <1 (n-BuAc=1)		
Reactivity in Water	NA	**Auto-Ignition Temperature**	580°C (Hydrogen)
Odor Threshold	Not Applicable	**Viscosity (poise @ 25° C)**	Not Available
Partition Coefficient	NA	**Decomposition Temperature**	Not Available
Flash Point	259°C (Hydrogen)		
Appearance and Odor	Electrolyte: clear liquid; acidic odor Case: case with terminals, odorless		

section 10 – stability & reactivity

Stability - This product is stable under normal conditions at ambient temperature. Avoid sparks, other sources of ignition, and electrical shorting.

Incompatibility (materials to avoid) –

Lead/Lead Compounds: potassium (K), carbides, sulfides, peroxides, phosphorus (P), and sulfur
Battery Electrolyte (Acid): combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, picrate and fulminates.

Section 11 – toxicological information

Threshold Limit Value: OSHA Air Exposure Limits (ug/ m^3)
Lead/Lead Compound: 50
Tin: 2000
Dilute Sulfuric Acid: 1000

Routes and Methods of Entry -

Inhalation -
Acid mist from formation process may cause respiratory irritation.

Skin Contact –
Acid may cause irritation, burns and/or ulceration.

Eye Contact -
Acid may cause severe irritation, burns, cornea damage and/or blindness.

Ingestion -
Acid may cause irritation of mouth, throat, esophagus, and stomach.

Signs and Symptoms of Overexposure –

Acute Effects -
Over exposure to lead may lead to loss of appetite, constipation, sleeplessness and fatigue. Over exposure to acid may lead to skin irritation, corneal damage of the eyes and upper respiratory system.

Chronic Effects -
Lead and its components may cause damage to kidneys and nervous system. Acid and its components may cause lung damage and pulmonary conditions.

Medical Conditions Generally Aggravated by Exposure

Potential to Cause Cancer: The International Agency for Research on Cancer has classified "strong inorganic acid mist containing sulfuric acid" as a Category1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist is not generated under normal use of this product. Misuse of the product, such as overcharging, may however result in the generation of sulfuric acid mist.

Section 12 – ecological information

Hazardous Decomposition Products

Lead/Lead Compounds: Oxides of lead and sulfur.

Battery Electrolyte (Acid): Hydrogen, sulfur dioxide, and sulfur trioxide.

Section 13 – disposal

Waste Disposal Method –

Battery electrolyte (acid): Neutralize as above for a spill, collect residue, and place in a drum or suitable container. Dispose of as hazardous waste.

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

Do not flush lead contaminated acid to sewer.

SECTION 14 – TRANSPORT

U.S. DOT: Lead Acid batteries that are classified as non-spillable have been tested and meet the non-spillable criteria listed in CFR 49, 173.159 (f) and 173.159a (d) (1).

Non-spillable batteries are excluded from CFR 49, Subchapter C requirements, provided that the following criteria are met:

(1) The batteries must be securely packed in strong outer packaging and meet the requirements of CFR 49 173.159a;
(2) The batteries' terminals must be protected against short circuit; and
(3) Each battery and their outer packaging must be plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY"

The exception from CFR 49, Subchapter C means shipping papers need not show proper shipping name, hazard class, UN number, and packing group. Hazardous warning labels are not required when transporting a non-spillable battery.

IATA: Lead Acid batteries that are classified as non-spillable have been tested and meet the non-spillable criteria listed in IATA Packing Instruction 872 and Special Provision A67. Non-spillable batteries must be packed according to IATA Packing Instruction 872. This means shipping papers need not show proper shipping name, hazard class, UN number, and packing group. Hazardous warning labels are not required when transporting a non-spillable battery. These batteries are excluded from all IATA regulations provided that battery terminals are protected against short circuits.

IMDG: Lead Acid batteries that are classified as non-spillable have been tested and meet the non-spillable criteria listed in Special Provision 238. Non-spillable batteries must be packed according to IMDG Packing Instruction P003. This means shipping papers need not show proper shipping name, hazard class, UN number, and packing group. No hazardous warning labels are required when transporting a non-spillable battery. These batteries are excluded from all IMDG code provided that the batteries' terminals are protected against short circuits per PP16.

SECTION 15 – REGULATORY INFORMATION

Batteries in this category may be listed with UL in the ‘recognized component’ class.

SECTION 16 – OTHER INFORMATION

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