Material Safety Data Sheet — Sealed Lead Acid – AGM

The information and recommendations below are believed to be accurate at the date of preparation. Ascent Battery makes no warranty of merchantability or any other warranty, express or implied, with respect to such information and we assume no liability resulting from its use. This MSDS sheet provides guidelines for safe use and handling of the product. It does not and cannot advise all possible situations. Your specific use of this product should be evaluated to determine if additional precautions must be taken.

Company	Ascent Battery Supply	**Emergency Number**	INFOTRAC 800-535-5053
Address	925 Walnut Ridge Drive Hartland, WI 53029	**Overseas Emergency Number**	INFOTRAC 800-535-5053
Revision Date	03/2012		

SECTION 1 – IDENTITY

Product Name	Werker AGM
Common Synonyms	SLA, VRLA, AGM, Sealed Recombinent
DOT Description	Wet Battery, non-spillable
Chemical Name	Sealed Lead Acid, Secondary Battery

SECTION 2 – HAZARDOUS INGREDIENTS

Chemical Name	CAS No.	Percentage %
Lead	7439-92-1	60-70
Sulfuric Acid	7664-93-9	10-15
AGM seperator	n/a	3-4
Calcium	7440-70-2	<0.15
Tin	7440-31-5	<1
ABS	9003-56-9	5-10

SECTION 3 – PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point	235-240° F (113–116° C) (as sulfuric acid)	**Melting Point**	Polypropylene > 320º F
Vapor Pressure	10 mmHg	**Vapor Density**	> 1
Specific Gravity	1.27–1.33	**Percent Volatile By Volume**	None
Solubility in Water	100% (as sulfuric acid)	**Reactivity in Water**	NA
Appearance and Odor	Rectangular polypropylene or polystyrene case with lead terminals Odorless	**Evaporation Rate**	<1 (n-BuAc=1)
Flash Point	Below room temperature (as hydrogen gas)	**Flammable Limits in Air % by Volume**	NA
Extinguisher Media	Carbon dioxide, dry chemical powder, or appropriate foam.	**Auto-Ignition Temperature**	NA

Special Fire Fighting Procedures	Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use full protective equipment (bunker gear) and self-contained breathing apparatus. Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.
Unusual Fire and Explosion Hazards	Batteries evolve flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat or open flames.

SECTION 4 – PHYSICAL HAZARDS

Stable or Unstable	Stable	**Conditions to Avoid**	Overcharging, sources of ignition, short-circuit
Incompatibility (Materials to Avoid)	Strong bases, combustible organic materials, reducing agents, finely divided metals, strong oxidizers, and water.		
Hazardous Decomposition	Thermal decomposition will produce sulfur dioxide, sulfur trioxide, carbon monoxide, sulfuric acid mist, and hydrogen.		
Hazardous Polymerization	Will Not Occur		

SECTION 5 – HEALTH HAZARDS

Threshold Limit Value	OSHA (PEL/TWA) Lead, inorganic (as Pb) 0.05 mg/m3 Sulfuric acid 1.00 mg/m3 Antimony 0.50 mg/m3 Arsenic 0.01 mg/m3 Tin 2.00 mg/m3
Signs and Symptoms of Exposure	Exposure to sulfuric acid, lead, lead dioxide, or lead sulfate may occur if the sealed battery case is damaged. **Exposure to lead may include:** Chronic over exposure: Tire easily, loss of appetite, irritability, metallic taste, insomnia; toxic to nervous system, kidneys and reproductive system. Acute overexposure: Constipation, vomiting, blue line on gums, weak wrists and ankles, weight loss, yellowish skin. **Exposure to sulfuric acid:** Chronic over exposures: inhalation-erosion of teeth, inflammation of nose, throat and bronchial tubes. Acute overexposure: Eyes - severe burns, cornea damage, blindness. Skin - severe irritation, burns, ulceration. Inhalation - respiratory irritation, inflammation of bronchial membranes. Ingestion- severe burns of the mouth, throat, esophagus and stomach, damage to kidney and intestinal tract.
Medical Conditions Generally Caused by Exposure	Respiratory and skin diseases may predispose the user to acute and chronic effects of sulfuric acid and/or lead. Children and pregnant women must be protected from lead exposure. Persons with kidney disease may be at increased risk of kidney failure.
Routes of Entry	Lungs, eyes, skin, swallowing.
Emergency and First Aid Procedures for	Lead and Sulfuric Acid
1. Inhalation	If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
2. Eyes and Skin	If a cell ruptures flush, with copious quantities of flowing lukewarm water for a minimum of 15 minutes. Get immediate medical attention for eyes. Wash skin with soap and water. Remove all contaminated clothing.
4. Ingestion	Ingestion of battery chemicals can be harmful. Call The National Battery Ingestion Hotline (202-625-3333) 24 hours a day, for procedures treating ingestion of chemicals. Do not induce vomiting. Dilute by giving milk and water. Do not give anything by mouth to an unconscious person.

SECTION 6 – SPECIAL PROTECTION INFORMATION

Respiratory Protection	If product is involved in fire, it may cause the release of dust and fumes and the use of a face mask is recommended.		
Ventilation	Charge batteries in a well ventalated area.	**Local Exhaust** NA	**Mechanical** NA (General)
Gloves	Use gloves when handling SLA batteries.	**Safety Glasses**	Always wear safety glasses when working with batteries and cells.

SECTION 7 – SPECIAL PRECAUTIONS – SPILL AND LEAKAGE PROCEDURES

Storing Procedures	Store in dry and ventilated area.
Other Precautions	Do not store in air tight container. Do not allow metal or other conductive materials to short circuit terminals
Steps if chemicals are spilled	Will not occur unless case is damaged or vents. Pick up and place in materials in container. Neutralize sulfuric acid with lime, soda ash or sodium bicarbonate.
Waste Disposal	Lead acid batteries are recyclable when sent to a secondary lead smelter. Following local, State/Provincial, and Federal/National regulations applicable to end-of-life characteristics will be the responsibility of the end-user.

SECTION 8 – TRANSPORTATION AND REGULATORY INFORMATION

Proper Shipping Name: UN2800 - Battery, wet, non-spillable (electric storage)

U.S.DOT: Werker AGM batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in CFR 49, 173.159 (f) and 173.159a (d) (1).

Nonspillable 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
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 and hazardous labels are not required when transporting a nonspillable battery.

IATA: Werker AGM batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in IATA Packing Instruction 872 and Special Provision A67. Nonspillable 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 and hazardous labels are not required when transporting a nonspillable battery.

These batteries are excluded from all IATA regulations provided that the batteries' terminals are protected against short circuits.

IMDG: Werker AGM batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in Special Provision 238. Non-spillable batteries must be packed according to IMDG Packing Instruction P003. Translates to no proper shipping name, no hazard class, no UN number, no packing group and no hazardous labels when transporting a nonspillable battery.

These batteries are excluded from all IMDG code provided that the batteries' terminals are protected against short circuits per PP16.