GlobTek, Inc.
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Material Safety Data Sheet — Sealed Lead Acid – GEL (SLA)

The information and recommendations below are believed to be accurate at the date of preparation. GlobTek, Inc. 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.

Distributed By:	GlobTek, Inc.	**Emergency Number**	INFOTRAC (800)-535-5053
Address:	186 Veterans Drive Northvale, NJ 07647	**Overseas Emergency Number**	INFOTRAC (352) 323-3500 (Collect)
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SECTION 1 – IDENTITY

Product Name	Werker Gel; Valve Regulated Lead Acid Battery
Common Synonyms	Gel, Absorbed Electrolyte Sealed, Valve-Regulated Non-Spillable Battery
DOT Description	Battery Non-Spillable 49 CFR 173.159a
Chemical Name	Gel/absorbed electrolyte type lead acid storage battery

SECTION 2 – HAZARDOUS INGREDIENTS

Chemical Name	CAS No.	Percentage %
Lead, Inorganic	7439-92-1	60-75
Sulfuric Acid	7664-93-9	5-15
Antimony	7440-36-0	0-0.1
Arsenic	7440-38-2	< 0.1
Tin	7440-31-5	0-0.1
Polypropylene	9003-07-0	2-10

SECTION 3 – PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point	235-240° F (113–116° C) (as sulfuric acid)	**Melting Point**	NA
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	Industrial/commercial lead acid gel battery. Odorless	**Evaporation Rate**	>1
Flash Point	675 F (Polypropylene case) Below room temperature (as hydrogen gas)	**Flammable Limits in Air % by Volume**	LOWER EXPLOSIVE LIMIT (LEL): 4% (as hydrogen gas) UPPER EXPLOSIVE LIMIT (UEL): 74% (as hydrogen gas)
Extinguisher Media	Dry chemical, carbon dioxide, water, foam. Do not use water on live electrical circuits.	**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.		
Unusual Fire and Explosion	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 under normal conditions at ambient temperature.
Incompatibility (Materials to Avoid)	Strong bases, combustible organic materials, reducing agents, finely divided metals, strong oxidizers, and water.
Hazardous Decomposition Products	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	Permissible exposure limits	Lead Sulfuric Acid	TVL 0.15mg/m³ TVL 1 mg/m³	PEL 0.05mg/m³ PEL 1mg/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 exposure to airborne sulfuric acid will increase damaged to lungs and other pulmonary conditions. Harmful effects of lead are increased for a person with dietary deficiencies in calcium, iron and zinc.
Routes of Entry	Skin, Eyes, Swallowing
Emergency and First Aid Procedures for	Lead and Sulfuric Acid
1. Inhalation	Get fresh air. If symptoms persist, seek medical attention
2. Eyes and Skin	If cell ruptures, flush eyes 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.
3. Ingestion	Ingestion of battery chemicals can be harmful. Call 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 ventilated area.	**Local Exhaust**	NA	**Mechanical (General)**	NA
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 Precautions	Store in a 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 to be Taken 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	Batteries must be recycled

SECTION 8 – TRANSPORTATION

U.S.DOT: Werker Gel 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 excepted 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 Gel 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 Gel 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.

SECTION 14 – TRANSPORT INFORMATION

Lithium Polymer Battery	
UN Number	UN 2794
Shipping Name	BATTERIES, WET, FILLED WITH ACID
Hazard Classification	BATTERIES, WET, FILLED WITH ACID
Packing Group	III
IMDG Code	UN 2794
CAS	
EmS No.	
Marine Pollutant	
ADR Class	Class 8