

Section I – Product and Manufacturer Identity

<u>Product Identity</u>	<u>Telephone</u>
Sealed Lead-Acid Battery	Emergency Telephone Number 800.658.5883
<u>Manufacturer's Name and Address</u>	Customer Service Telephone Number 800.658.5883
Gruber Power Services 21438 N. Central Ave. Phoenix, AZ 85024 USA	<u>Web-Site</u> www.gruberpower.com

Section II – Hazardous Ingredients/Identity Information

<u>Components</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>% (By weight)</u>
Lead	7439-92-1	0.05 mg/m ³	0.15 mg/m ³	45 ~ 60%
Lead Dioxide	1309-60-0	0.05 mg/m ³	0.15 mg/m ³	15 ~ 25%
Sulfuric Acid Electrolyte	7664-93-9	1.00 mg/m ³	1.00 mg/m ³	15 ~ 20%
Non-Hazardous Materials	N/A	N/A	N/A	5 ~ 10%

(The non-hazardous materials include ABS plastic, glass fiber, rubber, copper and benjamin)

Section III – Physical/Chemical Characteristics – Electrolyte

<u>Boiling Point</u>	110° ~ 112°
<u>Vapor Pressure</u>	21 mm Hg. at 25°
<u>Vapor Density (AIR = 1)</u>	Greater than 1
<u>Specific Gravity (H2O = 1)</u>	1.270 ~ 1.330
<u>Solubility in Water</u>	Sulfuric Acid is 100% soluble in water.
<u>Appearance and Odor</u>	A battery is a manufactured article consisting of an opaque plastic case; no apparent odor. Electrolyte is a liquid, little pungent odor.

Section IV – Fire and Explosion Hazard Data

<u>Flash Point</u>	Not Applicable
<u>Flammable Limits</u>	Lower limit 4.10% (Hydrogen gas in air) Upper limit 74.20%
<u>Extinguishing Media</u>	Dry chemical, CO2, or water spray

Special Fire Fighting Procedures If batteries are on charge, turn off power. Use positive pressure, self-contained breathing apparatus in fighting fire. Water applied to electrolyte generates heat and causes it to spatter. Wear acid resistant clothing. Ventilate area well.

Unusual Fire and Explosion Hazards Hydrogen gas may be produced and may explode if ignited. Remove all sources of ignition.

Section V – Reactivity Data

<u>Stability</u>	Stable under normal conditions
<u>Conditions to Avoid</u>	Avoid shorting. Avoid prolonged over-charging. Use only approved charging methods. Do not charge in gas tight containers.

Section VI – Health Hazard Data

Routes of Entry
Electrolyte: Harmful by all routes of entry.

Inhalation
Electrolyte: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.

Ingestion
Electrolyte: May cause severe irritation of mouth, throat, esophagus, and stomach.

Skin Contact
Electrolyte: Severe irritation, burns, and ulceration.

Eye Contact
Electrolyte: Severe irritation, burns, cornea damage, and blindness.

Effects of Overexposure – Acute
Electrolyte: Severe skin irritation, damage to cornea may cause blindness, upper respiratory irritation.

Effects of Overexposure – Chronic

Electrolyte: Possible erosion of tooth enamel; inflammation of nose, throat, and bronchial tubes.

Carcinogenicity

Electrolyte: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 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 the battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

Medical Conditions Generally Aggravated by Exposure

Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte with eyes may damage cornea and/or cause blindness. Lead and its compounds can aggravate some forms of kidney, liver, neurologic and diseases.

Emergency and First Aid Procedures

Battery Electrolyte

Inhalation

Remove to fresh air. Give oxygen or artificial respiration if needed. Get immediate medical attention.

Eye Contact

Flush with plenty of water for at least 15 minutes. Get immediate medical attention.

Skin Contact

Remove contaminated clothing and flush affected areas with plenty of water for at least 15 minutes.

Ingestion

Do not induce vomiting. Dilute by giving large quantities of water. If available give several glass of milk. Do not give anything by mouth to an unconscious person. Give CPR if breathing has stopped. Get immediate medical attention.

Section VII – Precautions for Safe Handling and Use

Steps to be Taken in Case of Broken Battery Case or Electrolyte Leakage

Avoid contact with acid materials. Use soda ash or lime to neutralize. Flush with water. Dispose of clean-up materials as a hazardous waste.

Waste Disposal Method

Dispose of in accordance with Federal, State and Local Regulations. Do not incinerate. Batteries should be shipped to a reclamation facility for recovery of the metal and plastic components as the proper method of waste management. Contact distributors for appropriate product return procedures.

Other Precautions

Do not charge in unventilated areas. Do not use organic solvents or other than recommended chemical cleaners on battery.

Section VIII – Control Measures

General

Normal room ventilation is sufficient during normal use and handling.

Personal Protective Equipment (in the Event of Battery Case Breakage)

Always wear safety glasses with side shields or full-face shield.

Use rubber or neoprene glove.

Wear acid resistant boots, apron or clothing.

Work / Hygienic Practices

Remove jewelry, rings, watch and any other metallic objects while working on batteries. All tools should be adequately insulated to avoid the possibility of shorting connections. Do not lay tools on top of battery. Be sure to discharge static electricity from tools and individual person by touching a grounded surface in the vicinity of the batteries, but away from cells. Batteries are heavy. Serious injury can result from improper lifting or installation. Do not lift, carry, install or remove cells by lifting or pulling the terminal posts for safety reasons and because terminal posts and post seals may be damaged. Do not wear nylon clothes or overalls as they can create static electricity. Do keep a fire extinguisher and emergency communications device in the work area.

Section IX – Other Regulatory Information

NEPA Hazard Rating for Sulfuric Acid

Flammability (Red) = 0

Health (Blue) = 3

Reactivity (Yellow) = 2

Transportation InformationIdentification and Proper Shipping Name

"Batteries, Wet, Non-Spillable, Electric Storage"

U.S. DOT

Batteries meet the requirements of 49 CFR 173.159(d). They do not have an assigned UN number nor do they require additional DOT hazard labeling.

IATA / ICAO

Batteries meet the requirements of Special Provision A67. They are exempt from hazardous goods regulations, and classified as a "non-spillable battery".

For all modes of transportation, each battery and outer package must be labeled

“Non-Spillable” or “Non-Spillable Battery”. This label must be visible during transportation.

IMDG:

The international transportation of wet and moist charged (moist active) batteries is regulated by the International Maritime Dangerous Goods code (IMDG). Some Gruber Power Services Batteries have been tested and meet the non-spillable criteria listed in the IMDG code page 8121. These batteries are excepted from all IMDG code provided that the batteries terminal are protected against short circuits.

California Proposition 65

The State of California has determined that certain battery terminals contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. **IMPORTANT WASH HANDS THOROUGHLY AFTER WORKING WITH BATTERIES AND BEFORE EATING, DRINKING OR SMOKING.**

Section X – Additional Information

The Material Safety Data Sheet is supplied for informational purposes only. The information and recommendations contained herein have been compiled from sources believed to be reliable and represent current opinion on the subject. No warranty, guarantee, or representation is made by Gruber Power Services as to the absolute correctness or sufficiency of any representation contained herein and Gruber Power Services assumes no responsibility in connection therewith, nor can it be assumed that all acceptable safety measures are contained herein, or that additional measures may not be required under particular or exceptional conditions or circumstances.