



Material Safety Data Sheet

Date of Issue : 4-6-07 Authorised By : Technical manager

PRODUCT IDENTIFICATION

PRODUCT NAME : Sealed Lead Acid Battery – GEL

OTHER NAMES : Exide Sonnenschien, Solar block, A600, A500, A400, A200, A700, A600S, Exide GEL

PRODUCT TYPE : Sealed Lead Acid battery (VRLA) GEL

UN Number : 2800

CAS Number : See Notes

HAZCHEM CODE : 2X

POISONS SCHEDULE No. : S6

DANGEROUS GOODS CLASS : 8

PACKAGING GROUP : III

PRODUCT USE : Power supply - Standby, Emergency lighting, Traction, Diesel start, UPS, Solar

PRODUCT SUPPLIER DETAILS

Supplier: EXIDE TECHNOLOGIES

A.B.N.: 84 093 272 005

ADDRESS: **Street:** 55 Bryant Street
PADSTOW
New South Wales 2211
Australia

Postal: Locked Bag 416
MILPERRA
New South Wales 1891
Australia

TELEPHONE: 61 2 9722 5700

FACSIMILE: 61 2 9774 2966

EMERGENCY TELEPHONE NUMBER: 1 800 033 111 (All Hours)

PRODUCT COMPOSITION / INGREDIANCE

MATERIAL OR COMPONENT	CAS Number	PERCENTAGE
Lead	7439-92-1	40-60%
Lead Dioxide	1309-60-0	20-30%
Antimony	7440-36-0	2-6%
Tin	7440-31-5	0- 0.2%
Calcium	7440-70-2	0.02%
Electrolyte (Sulfuric acid/ water Solution), Silicon Dioxide	7664-93-9	26-40%
Fibre Glass		2-5%
Plastics- SAN, ABS		3-6%
Plastics- Polyethylene	9002-88-4	2-3%
Plastics - Polypropylene	9003-07-0	5-12%

PRODUCT NAME: VRLA - GEL

PAGE 1 OF 5

PHYSICAL PROPERTIES

	Lead/Lead Compounds	Electrolyte	Plastics
Appearance	Silver- grey metal, White powder, Brown	Tixotropic Gel (Solid)	Plastics sheet, rings, tubes, jar, lid
Melting Point	327 C	Semi solid	NA
Boiling Point	1070C	95C- 115C	NA
Vapour Pressure	NA	14.6 mbar for sulfuric acid	NA
Specific Gravity	11.34	1.230-1.350	NA
Flashpoint	NA	NA	NA
Flammability Limits	NA	NA	NA
Solubility in Water	NA	Silicon di oxide not soluble Sulfuric acid 100%	NA

REACTIVITY DATA

	Lead/Lead Compounds	Sulphuric Acid	Polypropylene
Incompatibility	Strong acid, ammonium nitrate, sodium oxide, oxidants, Potassium, carbides, sulfides, peroxides, phosphorus and sulfur	Highly corrosive to most metals, carbides, chlorates, nitrates	NA
Stability	Stable	Stable	Stable
Hazardous decomposition products	Lead oxides	Sulfur dioxide, hydrogen sulfide, hydrogen and sulfuric acid mist	
Hazardous polymerisation	NA	NA	NA

HEALTH HAZARD INFORMATION

ACUTE TOXICITY	Sulfuric acid may cause severe skin irritation, burns, and damage to cornea and possible blindness and upper respiratory irritation. Lead compounds may cause abdominal pain, nausea, headaches, vomiting, diarrhoea, severe cramping and difficulty in sleeping.
SWALLOWED	Sulfuric acid may cause severe irritation of mouth, throat, oesophagus and stomach. Lead compounds may cause abdominal pain, nausea, vomiting, diarrhoea and severe cramping. Acute ingestion should be treated by physician.
EYES	Sulfuric acid may cause severe irritation of mouth, throat, oesophagus and stomach. Lead compounds may cause abdominal pain, nausea, vomiting, diarrhoea and severe cramping. Acute ingestion should be treated by physician.
SKIN	Sulfuric acid may cause severe irritation, burns and ulceration. Lead compounds are not absorbed through the skin.
INHALED	Sulfuric acid vapours or mist may cause severe respiratory irritation. Lead dust or fumes may cause irritation of upper respiratory tract or lungs.
CHRONIC TOXICITY	Sulfuric acid may lead to scarring of cornea, inflammation of the nose, throat and bronchial tubes and possible erosion of tooth enamel. Lead compounds may cause anaemia, damage to kidneys and nervous system. May cause reproductive changes in both males and females.

FIRST AID INFORMATION

SWALLOWED	Sulfuric acid – Give large quantities of water or milk. DO NOT induce vomiting, then consult physician. Lead – Consult physician.
EYES	Sulfuric acids – flush immediately with cool water for atleast 15 minutes, then consult physician. Lead compounds – flush immediately with cool water for atleast 15 minutes, then consult physician.
SKIN	Sulfuric acid – Flush with large amounts of water for atleast 15 minutes, remove any contaminated clothing and do not wear again until cleaned. If acid is splashed on shoes, remove and discard if they contain leather. Lead compounds are not absorbed through the skin.

Material Safety Data Sheet

INHALED	<p>Sulfuric acid – Remove to fresh air immediately. If breathing is difficult, give oxygen.</p> <p>Lead compounds – Remove from exposure; gargle, wash nose and eyes and consult physician.</p>
ADVICE TO DOCTOR	Treatment for sulfuric acid and lead.

PRECAUTIONS FOR USE

EXPOSURE STANDARDS	<p>Threshold limit value for Metallic Lead is 0.15 mg/ cubic meter in air</p> <p>Threshold limit value for Sulphuric acid is 1 mg/ cubic meter in air</p>
ENGINEERING CONTROLS	Store and handle lead acid batteries in well-ventilated areas.
PERSONAL PROTECTION	<p>Respiratory protection: None required under normal conditions. If concentration of sulfuric acid mist is noticed, use respirators.</p> <p>Eyes and face: Face shields or goggles may be required as per AS2676.</p> <p>Hands, Arm, Body: Rubber or plastic acid resistant gloves with elbow gauntlet may be required if electrolyte is exposed due to damage to cell.</p> <p>Other protective clothing: Acid resistant Apron. Under severe exposure or emergency conditions, wear acid resistant clothing and boots.</p>
FLAMMABILITY	<p>Flash point: NA</p> <p>Flammability limits: 2%- (Hydrogen gas)</p> <p>Extinguishing media: CO₂ : Foam: Dry chemicals</p> <p>Special fire fighting procedures: If batteries are on charge, turn off power. Use positive pressure, self-contained breathing apparatus. Water applied to electrolyte generates heat and causes it to splatter. Hence do not use water. Wear acid resistant clothing. Avoid contact with all short circuit across battery terminals.</p> <p>Unusual fire and Explosion hazards: Hydrogen and Oxygen gases are produced in the cells during normal battery operation or when on charge (Hydrogen is highly flammable and Oxygen supports combustion). These gases enter the air through the vent caps. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metallic material to simultaneously contact both the positive and negative terminals of the batteries. By-products of some of the burnt plastics (used in the battery containers and cases) could cause serious injury or death. Breathing apparatus should be used. Follow manufacturer's instructions for installation.</p> <p>Other effects of Fire or Abnormal temperature: Sulfuric acid vapour, combustion products of Lead oxide, PVC, Polypropylene, Fibre glass, polyester.</p>

SAFE HANDLING INFORMATION

Material Safety Data Sheet

<p>STORAGE AND TRANSPORT</p>	<p>Do not place anything on the battery tops. Do not use or allow metallic items to short circuit the battery terminals. Do not cover the batteries with aluminium coated sarking. This product contains scheduled poison (S6).</p>
<p>SPILLS AND DISPOSAL</p>	<p>Remove combustible materials and all sources of ignition. Stop flow of material and contain spill by dyking with Soda ash (sodium carbonate) or Quick lime (calcium oxide) or Baking soda (Sodium bicarbonate). Carefully neutralise spill with soda ash, etc. Make certain mixture is neutral then collect residue and place in a drum or other suitable container with a label specifying "contains hazardous waste". Dispose off as hazardous waste. If battery is leaking, place battery in a heavy-duty plastic bag. Wear acid resistant boots, faceshield, acid resistant apron, and acid resistant gloves.</p> <p>DO NOT RELEASE UNNEUTRALISED ACID TO SEWER.</p> <p>Waste disposal :</p> <p>Sulfuric acid: Neutralise as described above for a spill, collect residue in a container labelled as containing hazardous waste. Dispose off as a hazardous waste. If uncertain, call the supplier.</p> <p>DO NOT FLUSH LEAD CONTAMINATED ACID TO SEWER.</p> <p>Batteries: Send to lead smelter after consulting Exide.</p> <p>Please note that usually there is no flow of electrolyte from an absorbed electrolyte battery even if the casing is broken or punctured.</p>
<p>FIRE/EXPLOSION HAZARD</p>	<p>Refer to section on FLAMMABILITY.</p>
<p>OTHER PRECAUTIONS</p>	<p>Sulfuric acid is highly corrosive to most metals. Lead is not compatible with Strong acid, ammonium nitrate, sodium oxide, and oxidants. Follow supplier's instructions. Avoid naked flames and prohibit smoking, sparks, etc. from battery charging areas. Avoid mixing acid with other chemicals.</p>
<p>SUBSIDIARY RISK</p>	<p>The international agency for research on cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a category carcinogen, a substance that is carcinogenous to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric 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.</p>

Note: Sealed Lead acid batteries (VRLA) have absorbed/ immobile electrolyte and usually do not contain free electrolyte and hence considered to be " non spillable batteries".

Disclaimer: This MSDS is offered only for information. Exide Technologies provides no warranties either expressed or implied and assumes no responsibility for accuracy or completeness of the data contained herein.