



GS12-130X Material Safety Datasheet (MSDS)

Date updated: 1 October 2013

Section I: Chemical Product and Company Identification

Product Identity: Trade Name:	Sealed Stationary Battery GS12-130X
Supplier	Golden Season Pte Ltd
Supplier Address	31 Playfair Road Singapore 367993
Supplier Phone number	+65 68632228
Supplier Fax Number	+65 63632478
Supplier Email	info@goldenseason.com.sg
Supplier Website	www.goldenseason.com.sg www.gseason.com

Section II: Hazardous Ingredients /Identity Information

Component	Common Name	Chemical Name	Approximate % by weight or volume	OSHA PEL	ACGIH	TLV CAS#
Lead	Negative Electrode and Grid	Pb	48~ 53 wt%	0.05 mg/m ³	0.15 mg/m ³	7439-92-1
Lead Oxide	Positive Electrode	PbO	23~26%	0.05 mg/m ³	0.15 mg/m ³	1317-36-8
Lead Sulfate	Positive and Negative Electrode	PbSO ₄	< 1 weight%	0.05 mg/m ³	0.15 mg/m ³	7446-14-2
Sulfuric Acid	Electrolyte	H ₂ SO ₄	7~ 10wt%	1.0 mg/m ³	1.0mg/m ³	7664-93-9

Description of any hazards not otherwise classified

- Valve Regulated Lead Acid batteries are a non-spillable design.
- Under normal use and handling the customer has on contact with the internal components of the battery or the chemical hazards.
- Under normal use and handling these batteries do not emit regulated or hazardous substances.

California Proposition 65 Warning

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer. Wash hands after handling.

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Section III: Physical/ Chemical Characteristics

Boiling Point	Electrolyte 110°C-112°C
Vapor Pressure:	Electrolyte 11.7 mm Hg at 20°C
Vapor Density(AIR=1)	Electrolyte 3 4
Solubility in Water	Lead, Lead Oxide and Lead Sulfate are insoluble in water . Sulfuric Acid is 100%Soluble in Water.
Appearance and Odor:	The entire battery is a solid article consisting of an opaque plastic case with two protruding lead terminals or tin-plated brass terminals. The battery is odorless .sulfuric Acid is a liquid
Specific Gravity(H2O=1)	Electrolyte 1.300

Health Hazard Information (Acute and Chronic) for Sulfuric Acid.

The International Agency for Research On Cancer (IARC) has classified “strong inorganic acid mist containing sulfuric acid “as a Category I carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms 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 however result in the generation of sulfuric acid mist .

Routes of Entry	By inhalation (mist), skin and eyes, ingestion.
Acute	Tissue destruction on contact. May cause 2nd and3rd degree burns or blindness. Ingestion will cause corrosive burns on contact. May be fatal if swallowed.
Chronic	Inhalation of mists may cause upper respiratory irritation.
Sign and Symptoms:	Irritation and burning of exposed tissues.
Medical Conditions	Respiratory disorders may be aggravated by prolonged inhalation of mists

Section IV: 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 glasses of milk. Do not give anything by mouth to an unconscious person. Give CPR if breathing has stopped. Get immediate medical attention.

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Section V: Fire and Explosion Hazard Data

Flash Point	Not Applicable
Flammable Limits	Lower 4.10% (Hydrogen gas) Upper 74.20%
Extinguishing Media	Dry chemical, foam, halon or CO2
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 splatter. Wear acid resistant clothing. Ventilate area well.
Unusual Fire and Explosion Hazards	Hydrogen and oxygen gases are generated in cells during normal battery operation or when on charge. (Hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps during battery overcharging. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Ventilate area well.

Section VI: Reactivity Data

Stability	Stable under normal conditions
Conditions to avoid	Sparks and other sources of ignition. Prolonged overcharge Fire or explosion hazard due to possible hydrogen gas generation.
Incompatibility	Combination of sulfuric acid with combustibles and organic materials may cause fire and explosion. Avoid strong reducing agents, most metals, carbides, chlorates, nitrates, pirate.
Hazardous Decomposition Products	Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. CO, CO2 and sulfur oxides may emit in fire. Hazardous polymerization will not occur.

Section VII: Precautions for Safe Handling and Use

Steps to be Taken in Case of Broken Battery Case or Electrolyte Leakage	Neutralize any electrolyte or exposal internal battery parts with soda ash (sodium bicarbonate) until fizzing stops. Keep untrained personnel away from electrolyte and broken battery. Place broken battery and clean-up materials in a plastic bag or non-metallic container. Dispose of clean-up materials as a hazardous waste. Ventilate area as hydrogen gas may be given off during neutralization.
Waste Disposal Method:	Federal and State laws prohibit the improper disposal of all lead

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	acid batteries. The battery end users (owners) are responsible for their batteries from the date of purchase through their ultimate disposal. The only legally acceptable method of disposal of lead acid batteries is to recycle them at a Resource Conservation and Recovery Act (RCRA) approved secondary lead smelter
Recycling	The GS12-130X may be recycled as a lead-acid battery in an environmentally sound manner. These batteries are chemically identical to common automotive starter batteries and can be recycled with automotive lead-acid batteries. HAZARDOUS WASTE CODES: D002, D008
Precautions to be Taken in Handling, Storing and Transportation	Store in cool, dolt area away from combustible materials. Do not store in sealed, unventilated areas. Avoid overheating and overcharging.
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/Personal Protection

General	Normal room ventilation is sufficient during normal use and handling. Recommend 2 to 3 room air change per hour to prevent buildup of hydrogen gas
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 gloves. Wear acid resistant boots, apron or clothing.
Work/Hygienic Practices	Remove jewelry, rings, watches 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 grounder surface in the vicinity of the batteries, but away from cells. Batteries are heavy. Serious injury can result from improper lifting or pulling the terminal posts for safety reasons and because terminal posts and post seals may be damaged.DO NOT lift, carry, install or remove cells by wear nylon clothes overalls as they can create static electricity ,DO KEEP a class”C”fire extinguisher and emergency communications device in the work area.
<u>IMPORTANT</u>	<u>Wash hands thoroughly after working with batteries and before eating, drinking or smoking.</u>

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Section IX: Regulatory Information

NFPA Hazard Rating for Sulfuric Acid	
Flammability(red)	0
Health(blue)	3
Reactivity(yellow)	2

Section X: Transportation Information

DOT	Unregulated, meets the requirements of 49 CFR173,159(d).
IATA/ICAO	Unregulated, meets the requirements the requirements of Special Provision A67.
IMO	Unregulated,IMDG-Unregulated,meets the requirements of Special Provision 29&238.
IMPORTANT	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. Batteries must be securely packed to prevent short circuiting.

Section XI: California Proposition 65 information

The state of California has determined that certain battery terminals contain lead and lead compounds, and handling this product may also expose you to sulfuric acid mist, chemicals known to the state of California to cause cancer and reproductive harm.

IMPORTANT: WASH HANDS THOROUGHLY AFTER WORKING WITH BATTERIES AND BEFORE EATING, DRINKING OR SMOKING.

Section XII: Other information

GS12-130X Valve Regulated Lead-Acid(VRLA) Battery Electrolyte Data for Environmental Reporting Poises Emergency Planning and Community Right-to-know Act of 1986 EPCRA. GS12-130X batteries are manufactured using lead, CAS,No 7439-92-1 and Electrolyte (Sulfuric acid) CAS No 7664-93-9,which are subject to the reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986(EPCRA). EPCRA is intended to provide the public with information about hazardous substances in their communities and to assist in establishing emergency response plan for chemical accidents. Section 302 requires notification if you have more than 1000lbs.of sulfuric acid ,section 304 says that the Reportable Quantity for a spill is 1000 lbs,for sulfuric acid CERCLA also has a 1000lb,spill reporting requirement. Section 312 requires Annual inventory reporting one Tier II form if you have 500lbs. of Sulfuric or 10000lbs .of lead Section 313 requires Toxic Chemical Release Inventory Form R reporting if you have more than 10000lbs .of sulfuric acid or 100 lbs. of lead. The quantity of electrolyte sulfuric acid and lead will vary by battery model.

NOTE: Battery electrolyte is a mixture of sulfuric acid and water. Only the amount of 100% sulfuric acid must be counted in the reportable quantity.

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