MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1 - GENERAL INFORMATION

Product Name: Valve Regulated Lead Acid (VRLA) Batteries / Lead acid battery

Manufacturer: DONGGUAN SHENSONG POWER CO.,LTD.

2#,Southwest Road,ShiGu Village,TangXiaTown,DongGuan City,GuangDong .China.

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Email: shensongpower@163.com
Responsible persons: QA Representative, Managing Director

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components Chemical Identity	CAS Number	OSHA PEL	ACGIH TLV	Percent By Weight	EC Number	Average
Lead	7439-92-1	50 μg/m^3	50 μg/m^3	58.5-71.5%	231-100-4	65%
Sulfuric Acid	7664-93-9	100 μg/m^3	1.00 mg/m^3	7.3-9.5%	231-639-5	8.4%
Lead Oxide	1309-60-0	50 μg/m	500 μg/m	21.7-26.2%	215-174-5	24%

	Risk Phrases	Safety Phrases
Sulphuric Acid	R61,62,20/22,33	S1/2,S26,S30,S45
Lead Oxide	R35	None

SECTION 3 -- HAZARD IDENTIFICATION

Odour: Not applicable
Appearance: Article as described above
Weight High Density/ Good lifting technique required

Hazards refer to internal component, i.e. lead and sulphuric acid
Contact with eyes: Causes irritation
Contact with skin: May cause dermatitis
Inhalation: May cause irritation
Ingestion: Can cause damage to the kidneys

SECTION 4 - FIRST AID MEASURES

Inhalation: Remove patient to fresh air. Seek medical attention if irritation persists.

Eyes : If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes.

Skin : Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water.

Ingestion: Do not induce vomiting.
If conscious drink large amounts of water/milk.
Obtain medical attention.Never give anything by mouth to an unconscious person.

SECTION 5 - FIREFIGHTING MEASURES

Auto-ignition point (Hydrogen) 580º C at 760 mm Hg
Wear positive-pressure breathing apparatus
In case of fire use foam, carbon dioxide or dry agent (S43)
Flash point Hydrogen 259º C
Flammable Limits in air, Lower 4.1%
% by 3/4 vol. (Hydrogen)

Fire/explosion
Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion).

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Immediate Actions:	Shut off all ignition sources
Clean Up Actions:	Neutralise with soda ash
	Place in appropriate container
	Ventilate area
	Do not empty into drains (S29)

SECTION 7 - HANDLING AND STORAGE

Under normal conditions of battery use, internal components will not present a health hazard

Handling:	Keep away from heat and sources of ignition
	Wash hands thoroughly after use
	Avoid sparks
	Avoid contact with metal jewellery and watches etc.
	Do Not Remove Vent Caps
	Do not double stack industrial
Storage:	Keep in cool and dry & Protect from heat.
	Store lead acid batteries with adequate ventilation.
	Room ventilation is required for batteries utilised for standby power generation.
	Never re-charge batteries in an unventilated, enclosed space.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal protection: Wear safety shoes with toe protector.
Where internal components are liberated use rubber or neoprene boots.
Wear goggles/safety glasses giving complete eye protection.

excessive air contamination exists.
Wear PVC mitts, gloves or gauntlets.

Exposure Limits: Lead OES / LTEL - ppm 0.15 mg/m3
Lead Dioxide OES / LTEL - pmm 0.15 mg/m3

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Odour:	Not applicable.
Appearance:	Sealed Valve Regulated lead Acid Battery
State under normal temp:	Solid
Flash point (Hydrogen):	259º C

Internal components

pH - (Sulphuric acid):	1.3 .
Boiling point: (at 760 mm/Hg)	Battery Electrolyte 110º C, Lead 1755º C
Melting point:	Lead 327.4º C
Vapour pressure:	11.7
Vapour density:	Battery Electrolyte 3.4, (air =1)
Specific gravity:	Battery Electrolyte 1.3 g/cm3. (water =1)
Auto-ignition point:	580º deg C at 760 mm/Hg.

SECTION 10 - STABILITY AND REACTIVITY

VRLA Batteries are considered stable at normal conditions.
Keep away from heat and sources of ignition.
Incompatible with reducing agents. Incompatible with organic agents.
Decomposition products may include hydrogen.
Decomposition products may include sulphur oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Danger of cumulative effects. (R33)
May cause severe irritation.
May cause gastro-intestinal disturbances.
Can cause damage to the mucous membranes.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicology - no information available

SECTION 13 - DISPOSAL CONSIDERATIONS

Classification:	This material and/or its container must be disposed of as hazardous waste.
Disposal considerations:	Do not discharge into drains or the environment, dispose to an authorised waste collection point.

SECTION 14 - TRANSPORT INFORMATION

We hereby certify that Orema all series of Maintenance Free Rechargeable Sealed Lead Acid Batteries as per IMDG SP.238 and NON-DG shipment conform to the UN2800 classification as " Batteries , Non- Spillable, and electric storage" as a result of passing the Vibration and Pressure Differential Test described in DOT [49 CFR 173.159(d) and IATA/ICAO [Special Provision A67].

Orema Battery having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by DOT, and IATA/ICAO, and therefore are unrestricted for transportation by any means.

SECTION 15 - REGULATORY INFORMATION

Classification and labeling. Not classified as hazardous for supply

SECTION 16 - OTHER INFORMATION

Under normal conditions of battery use, internal components will not present a health hazard. The information contained in this Safety Data Sheet is provided for battery electrolyte (acid) and lead, for exposure that may occur during battery production or container breakage or under extreme heat conditions such as fire.

This Safety Data Sheet and the information therein does not constitute the user's own assessment of work place risk as required by other Health & Safety legislation.