Sparco DS Global LLP

MATERIAL SAFETY DATA SHEET – AGM VRLA BATTERY

Ver 1.1
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SECTION 1 : Product & Company Identification

Name of Product	:	Maintenance Free Lead Acid Battery, Non Spillable, Valve Regulated.
Nameof Manufacturer	:	Sparco DS Global LLP
Address	:	A-35/3, Ist Floor, Mayapuri Industrial Area, Phase-1, New Delhi-110064 India.
Telephone	:	+91-11-28117658, 28117680
Email	:	info@sdsglobal.in

SECTION 2 : Composition / Information on Ingredients

Components	Percentage	CAS NO.	OSHA PEL (mg/m3)
Lead Alloys	24 %– 31%	7439---91---1	0.05
Lead Oxide	18% --- 21%	1309---60---0	0.05
Lead Sulphate	16% --- 19%	7439---91---1	0.05
Sulphuric Acid (H2SO4)	14% --- 15.3%	7664---93---9	1.0
ABS Casing	5.5 %– 6.0 %	9003---56---9	N.A

NOTE:
The battery plate groups used in lead acid batteries are contained within ABS containers and are sealed, non---spillable design. Under normal use and handling, there is no contact with the internal components of the battery or chemical hazards. Under normal use and handling, these products do not emit regulated or hazardous substances.
Misuse of the product, such as overcharging, may result in a discharge of battery electrolyte.

SECTION 3 : Hazards Identification

Emergency Overview:

Potential hazards include exposure to electrolyte (battery acid) and lead compounds if battery container is damaged. Electrolyte is corrosive and can cause chemical burns to exposed skin.

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Routes of entry:

If battery container is damaged, the most probable routes of entry include eyes, skin, mouth, and inhalation. Hazardous exposure can occur only when the product is heated above melting point, oxidized or otherwise processed or damaged to create dust, vapour or fumes.

Potential health effects:

Eyes:

Electrolyte can cause severe irritation, burns, cornea damage and blindness. Exposure to lead compounds may cause irritation.

Skin:

Exposure to electrolyte can cause severe irritation, burns and ulceration of skin. Exposure to lead compounds can cause mild irritation depending on exposure time and sensitivity.

Ingestion:

Ingestion of electrolyte can cause severe irritation of mouth, throat, oesophagus and stomach. Ingestion of lead compounds may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead to systemic toxicity and should be treated by a physician.

Inhalation:

Inhalation of sulphuric acid vapours or mists may cause severe respiratory irritation, inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

SECTION 4 : First Aid Measures

Inhalation:

In case of inhalation of electrolyte, remove to fresh air immediately. If breathing is difficult, give oxygen. In case of inhalation of lead compounds, remove from exposure, gargle, wash nose and lips, consult physician.

Ingestion:

If exposed to electrolyte, give large quantities of water. Do not induce vomiting. Consult physician. In case of ingestion of lead compounds, If conscious, drink large quantities of milk or water. Follow with milk of magnesia, beaten egg, egg whites or vegetable oil. Consult physician immediately.

Skin:

In case of exposure to electrolyte, wash with large amounts of water for 15 minutes. Remove contaminated clothing including shoes. In case of contact with lead compounds wash immediately with soap and water.

Eyes:

In case of exposure to electrolyte or lead compounds, flush immediately with large amounts of clean water or saline for at least 15 minutes, consult a physician immediately.

SECTION 5 : Fire Fighting Measures

Flash Point	:	Not Applicable
Auto ignition temperature	:	Not Applicable
Flammable Limits	:	(Hydrogen gas in air) 4.1% LEL, 74.2% UEL

Fire Fighting:

Use Carbon Dioxide or Dry Chemical extinguishers, Fire fighter to wear acid---resistant full protective clothing including rubber footwear and self---contained breathing apparatus. Water should not be used unless from a safe distance due to vigorous and exothermic reaction which will result.

Explosion:

Hydrogen and oxygen gases are produced during normal battery operation and charging. These gases escape through the battery vents and may form an explosive atmosphere around the battery if ventilation is poor. Avoid open flame, sparks and other ignition sources in areas where batteries are used or stored.

Special Information:

Sulphuric acid is an oxidizer and can ignite combustibles upon contact.

Hazardous Combustion:

Acid mists and vapours, toxic fumes from burning plastic

SECTION 6 : Accidental Release Measures

Stop the flow of material, contain / absorb small spills with dry sand, earth and vermiculite. Do not use combustive materials. If possible carefully neutralize spilled electrolyte with soda ash, sodium bicarbonate, lime etc.
Wear acid resistant clothing, boots, gloves and face shield. Do not allow discharge of un neutralized acid to the sewer.

SECTION 7 : Handling and Storage

Storage Temperature:

Min : 20°F (---28°C) for fully charged batteries. 20°F (---6°C) for completely discharged batteries.

Max : 80°F (26°C) for low self discharge but up to 100°F (38°C) is safe.

Shelf Life:

Not determined.

Special Sensitivity:

Avoid direct conductive connection across positive and negative terminals to prevent short circuit.

Storage Precautions:

Batteries should be kept in an upright position away from ignition sources. Stack batteries so as to prevent accidental contact between terminal and/or other damage to terminals or containers. Whenever feasible, store on shipping pallet or rack. Do not stack loaded pallets or racks on top of other batteries. Store batteries in a cool, well---ventilated location. Avoid storage in areas exposed to heat or solar build-up.

SECTION 8 : Exposure Controls/ Personal Protection

Engineering Controls:

Use engineering controls (workstation design & ventilation) to reduce exposure below OSHA PEL (see section 2)

Ventilation:

Provide ventilation in areas where batteries are stored or charged. Charging batteries generate heat and potentially flammable hazardous gas.

Respiratory Protection:

Not required under normal circumstances of use. When responding to a spill involving damaged batteries or potential exposure to battery contents, use a NIOSH approved respirator with particulate and acid gas cartridges

Eye protection:

Wear safety glasses when handling sealed batteries as a general precaution. Wear goggles or a face shield while handling damaged or leaking batteries.

Skin Protection:

Wear acid resistant clothing such as apron or splash suit while handling damaged or leaking batteries. Wear chemical and acid resistant gloves while handling electrolyte.

Work Practices:

Ensure availability of eyewash and drench shower if potential exposure to battery contents exist

Exposure Guidelines:

Maintain exposures below OSHA PEL's listed in Section 2 when potential exposure to battery contents exists.

SECTION 9 : Physical & Chemical Properties

Electrolyte		
Boiling point	:	203 – 240 F^{O}
Specific Gravity	:	1.250 to 1.350 (H2O=1)
Melting point	:	N/A
Vapour pressure	:	10 mm Hg
Vapour density	:	Greater than 1 (Air =1) Evaporation rate:

Less than 1 (Butyl acetate = 1)

For others refer to Section 2.

SECTION 10 : Stability & Reactivity

Stable: Yes

Conditions to Avoid:

Use only approved charging methods. Avoid overcharging. Avoid short--- circuiting. Avoid sparks and other ignition sources. Keep away from oxidizing and reducing materials. Do not open, break or melt the casing.

Incompatible Materials:

Heat, open flames, sparks, strong oxidizing or reducing agents.

Hazardous Decomposition:

Can emit highly toxic fumes when heated. Combustion can produce carbon dioxide and carbon monoxide. Will release an explosive hydrogen/oxygen gas mixture. Oxides of lead, lead and/or lead compounds may be released. Sulphuric acid may release sulphur dioxide and/or sulphur trioxide.

Hazardous Polymerization:

Will not occur

SECTION 11 : Toxicological Information

Toxicology Data :

Wet storage batteries are sealed articles. Exposure to lead, acid and lead contaminated acid is not anticipated during normal storage, handling and intended use or maintenance of the battery. Battery recycling personnel should carefully follow established employer protocols when processing batteries and battery components.

Eye Effects :

Sulphuric Acid :

Severe eye irritant.

Skin Effects :

Sulphuric Acid :

Extremely irritating, corrosive, and toxic to tissue, resulting in rapid destruction of tissue, causing severe burns. If much skin is involved, exposure is accompanied by shock, collapse and symptoms similar to those seen in severe burns. Repeated contact with dilute solutions can cause dermatitis.

Ingestion Effects:

Lead :

Poison by ingestion in large doses and with prolonged exposure leading to the same effects as seen in exposure by inhalation. Adults absorb 5---15% of ingested lead and retain less than 5%. Children absorb about 50% and retain about 30%.

Inhalation Effects:

Lead :

For industry, inhalation is much more important than is ingestion. Systemic effects include loss of appetite, anaemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, flaccid paralysis without anaesthesia, hallucinations and distorted perceptions, muscle weakness, gastritis and liver changes. Major organ systems affected are the nervous system, blood system and kidneys. Experimental evidence suggests that blood levels of lead below10 µg/dL can lower the IQ scores of children. Low levels of lead impair neurotransmission and immune system function and may increase systolic blood pressure. Reversible kidney damage can occur from acute exposure. Chronic exposure can lead to irreversible vascular sclerosis, tubular cell atrophy, interstitial fibrosis, and glomerular sclerosis. Very heavy intoxication can sometimes be detected by formation of a dark line on the gum margins.

Sulphuric Acid:

Moderately toxic by ingestion, Experimental poison by inhalation, Repeated or prolonged inhalation of sulphuric acid mist can cause inflammation of the upper respiratory tract, leading to chronic bronchitis. Severe exposure may cause chemical pneumonitis. Erosion of tooth enamel due to strong acid fume exposure has been observed in industry.

Workers exposed to low concentrations of the vapours gradually lose their sensitivity to its irritating action. Occupational exposures to strong---acid mists containing sulphuric acid have been associated with several respiratory tract cancers.

However, there is no animal data supporting the carcinogenicity of sulphuric acid. Sulphuric acid has been found to be non-mutagenic, and in two studies of workers employed in lead acid battery manufacture, no association between sulphuric acid mist exposure and respiratory tract cancers were observed.

Mutagenicity:

Lead :

Human mutation data reported

Reproductive Effects:

Lead :

Severe toxicity can cause sterility, abortion, and neonatal mortality and morbidity. Experimental teratogen. Experimental reproductive effects. Pathological lesions have been found on male gonads.

SECTION 12 : Ecological Information

No harm to Ecology as Lead acid Batteries are completely recyclable.

SECTION 13 : Disposal Considerations

Refer to the local waste disposal authority for disposal of lead compounds, sulphuric acid and spend soda ash/sodium bicarbonate. Lead acid batteries are completely recyclable. For information on returning batteries to the distributor, manufacturer or authorized lead smelter for recycling.

SECTION 14 : Transport Information

We hereby certify that all Valve Regulated Lead---acid Rechargeable batteries conform to the UN2800 classification as “Batteries, wet, Non---Spillable, and electric storage” as a result of passing the Vibration and Pressure Differential Test described in D.O.T., 49 CFR 173.159(d), and IMO/IMDG, and ICAO/IATA packing instruction 872 and note A67. The batteries are not restricted to IMO/IMDG code according to special provision 238. The batteries, 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. For all modes of transportation, each battery outer package is labelled "NON SPILLABLE". All our Batteries are marked non---spillable.

SECTION 15 : Regulatory information

Lead acid batteries:

The batteries (Management & Handling) Rules 2001 issued by Ministry of Environment & Forest (MOEF) applicable to trades of Lead acid batteries and being implemented by the State Government across India through Pollution Control Boards. Dealers in major cities collect the used batteries and send them to factories for consolidation. From factory used lead batteries are sent authorised smelters for recovery of lead. Other material recycling is governed by following standards.

Sulphuric acid:

Sulphuric acid (7664-93-9) is found on regulatory list

Plastic recycling:

Plastic recycling (9003-07-0) is found on regulatory list

SECTION 16 : Other Information

Disclaimer :

Every endeavour has been made to ensure that the information contained in this publication is reliable and offered in good faith. It is meant to describe the safety requirements of our products and should not be construed as guaranteeing specific properties. Customers are encouraged to conduct their own tests as end user suitability of the product for particular uses is beyond our control. The information is not intended as an inducement to bargain and no warranty expressed or implied is made as to its accuracy, reliability or completeness. Sparco DS Global LLP accepts no liability for loss, injury or damage arising from reliance upon the information contained in this data sheet except in conjunction with the proper use of the product to which it refers. Due care should be taken that the use and disposal of this product is in compliance with appropriate Federal, State and Local Government regulations.