Chemical safety technical specification
(MSDS)

Report No.: SFT21030318809E

Sample Name: Lead-Acid Battery

Signed for and on Behalf of SFT

Jack Zhong / Technical Manager
Guangdong Safety Testing Co., Ltd.

Part 1 Chemical name and product identification

Product name:	Lead-Acid Battery		
Model No.:	PT4-6,6V4AH;PT4.5-6,6V4.5AH;PT5-6,6V5AH;PT7-6,6V7AH;PT10-6,6V10AH;PT12-6,6V12AH;PT190-6,6V190AH; PT1.3-12,12V1.3AH;PT2.3-12,12V2.3AH;PT2.6-12,12V2.6AH;PT3.2-12,12V3.2AH;PT4-12,12V4AH;PT4.5-12,12V4.5AH;PT5-12,12V5AH;PT7-12,12V7AH;PT7.2-12,12V7.2AH;PT7.5-12,12V7.5AH;PT9-12,12V9AH;PT12-12,12V12AH;PT15-12,12V15AH;PT17-12,12V17AH;PT18-12,12V18AH;PT20-12,12V20AH;PT24-12,12V24AH;PT26-12,12V26AH;PT33-12,12V33AH;PT38-12,12V38AH;PT40-12,12V40AH;PT50-12,12V50AH;PT55-12,12V55AH;PT60-12,12V60AH;PT65-12,12V65AH;PT70-12,12V70AH;PT75-12,12V75AH;PT80-12,12V80AH;PT90-12,12V90AH;PT100-12,12V100AH;PT105-12,12V105AH;PT120-12,12V120AH;PT150-12,12V150AH;PT165-12,12V165AH;PT180-12,12V180AH;PT200-12,12V200AH;PT220-12,12V220AH;PT230-12,12V230AH;PT250-12,12V250AH;PT265-12,12V265AH; PT100-2,2V100AH;PT200-2,2V200AH;PT300-2,2V300AH;PT400-2,2V400AH;PT500-2,2V500AH;PT600-2,2V600AH;PT800-2,2V800AH;PT1000-2,2V1000AH;PT1500-2,2V1500AH;PT2000-2,2V2000AH;PT2500-2,2V2500AH;PT3000-2,2V3000AH;		

Part 2 Composition/composition information

Material	CAS No.	EC No.	Content(%)
Positive plate (PbO2)	1309-90-0	215-174-5	35%
Positive plate (Pb)	7439-92-1	231-100-4	35%
ABS	9003-56-9	618-371-8	5%
Dilute sulphuric acid (H2SO4)	7664-93-9	231-639-5	20%

Glass Fiber (AGM)	65997-17-3	920-837-3	4.5%
Terminal, glue, etc.	-	-	0.5%

Part 3 Risk overview

Classification of the substance or mixture:	**Classification according to Regulation (EC) No 1272/2008 [CLP]** The product is not classified according to the CLP regulation. **Classification according to Directive 67/548/EEC [DSD] or Directive 1999/45/EC [DPD]** The product is not classified according to the DSD and DPD directive.
Label elements:	**Labelling according to Regulation (EC) No 1272/2008 [CLP]** The product is not classified and labelled according to the CLP regulation. Hazard pictogram(s): N/A Signal word: N/A Hazard statement(s): N/A Precautionary statements: N/A
Other hazards:	No hazards occur during the normal operation of a Lead Acid Battery as it is described in the instructions for use that are provided with the Battery. Lead Acid Batteries have three significant characteristics: 1. They contain an electrolyte which contains diluted sulphuric acid. Sulphuric acid may causesevere chemical burns. 2. During the charging process or during operation, they might develop hydrogen gas and oxygen, which under certain circumstances may result in an explosive mixture. 3. They can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit. The Batteries have to be marked with the symbols listed under section15.

Part 4 First-aid measures

General information:	In all cases of doubt, seek medical attention.
Following inhalation:	Generally, harmless. If feel unwell, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Following skin contact:	If electrolyte leakage occurs and makes contact with skin, immediately remove contaminated clothing,scrub with a dry cloth first, then wash with plenty of water, wash with 3%-5% NaHCO3 solution finally. Get medical aid.
Following eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion:	Call a POISON Center or doctor/physician if you feel unwell. Rinse mouth.
Information for doctor:	No information available.
Most important symptoms and effects, both acute and delayed: No information available.	
Indication of any immediate medical attention and special treatment needed: No information available.	

Part 5 Fire fighting measures

Fire disaster/Explosion risk:	Generally, security, no fire and no explosion. While, severe impact and high fever may cause explode.
Extinguishing agent:	Carbon dioxide, dry chemical or foam extinguishers.
Fire extinguishing methods:	1. Fire personnel are required to wear self-contained breathing apparatus to avoid breathing irritant fumes. Wear protective clothing and equipment to prevent body contact with electrolyte solution. 2. Rapid evacuation of emergency personnel to leave the fire, quickly cut off the fire source. 3. To mist cooling the tanks or containers exposed to fire. 4. If the spill has not ignited, waterspray mist to spread the steam and to protect personnel attempting to stop the leak. 5. Large area of the large fire, use water spray control of unmanned aircraft operated or automatic swinging fire hose.
Fire-fight notes:	1. Move containers as far as possible from the fire scene to department. 2. In imposing the upper hand to avoid the risk of steam and toxic decomposition products. 3. Tank safety valve has been sounded, or discoloration due to fire and immediately evacuated.

Part 6 Leakage emergency treatment

The information is of relevance only if the battery is broken and the ingredients are released.	
Clean-up methods:	1. Isolate leakage pollution area, access restricted. 2. Recommend emergency personnel to wear self positive pressure respirator and acid-base proofing overalls. 3. Do not contact with the leakage directly, if the chemical substances leaked outside of battery, try neutralizing exposed battery parts with soda ash or sodium bicarbonate until fizzing stops, and using sand or bonding agent to absorb split acid. 4. Collect residue in a suitable container and place the broken battery in a heavy-duty plastic bag or other non-metallic container.

Note:	1. Leakage region ventilation. 2. Fight or remove all ignition sources. 3. To prevent leakage of material into the sewer or confined space. 4. Notify the government health and safety and environmental protection-related units.

Part 7 Handling, handling and storage

Handling Precautions:	1. With closed operation, provide a good natural ventilation. The operator must go through specialized training, strict compliance with operating rules. 2. Keep away from heat,ignition sources and no smoking. Use non-sparking ventilation explosion-proof type equipment. 3. Do not crush, short (+) and (-) battery terminals with conductive (i.e. metal) goods. 4.Do not directly heat or solder. Do not throw into fire or the place where may be submerged by water. 5. Do not be installed in sealed equipment. 6. Make sure than the connection between batteries is correct. 7. Do not use the battery in places where are full of dust (it should be regular checked when used in dusty environment). 8.Use tools which are with insulating bush when handling. 9. Do not clean the battery with diluent, gasoline, kerosene or composite liquid. 10. Slow handling when disassembly. 11. Do not cover the battery with materials which can produce static electricity. 12. Battery do not be thrown away, put in as much as possible separated from other garbage. 13. Pay special attention to be not smash foot.
Storage Precautions:	1. Stored in a cool, dry, well-ventilated place, keep batteries in non-conductive (i.e. plastic) trays. Storage areas should be clearly marked "no obstacles." 2. Away from combustibles areas. Away from heat, ignition sources. Avoid overheating and supercooling. Avoid contacting with metal containers directly, adopt acid proofing and flame resistant materials. 3. Near the storage areas have adequate fire extinguishers and spill clean-up equipment. 4. Avoid storing large quantities of indoor, as much as possible stored in the isolation of the fire building. 5.Small parts, avoid contact with children, to avoid being swallowed children.

Part 8 Contact control/individual protection

Appropriate engineering controls:	Provide local exhaust or process enclosure ventilation system.
Respiratory protection:	In case of inadequate ventilation wear respiratory protection.
Skin protection:	Wear protective gloves.

Eye and face protection:	Wear protective eye/face protection.
Body protection:	Wear protective clothing to prevent contact.
Environmental exposure controls:	Avoid release to the environment. Avoid discharge into drains, surface water or groundwater.
Other protection:	In the workplace non-smoking or eating. After work, take a bath. Separate storage of contaminated clothing, washed standby. Attention to personal hygiene.

Part 9 Physical and chemical characteristics

Appearance:	Not applicable		
Colour:	Not applicable		
Odour:	Not applicable		
Other information:	No data available		

Part 10 Stability and reactivity

Stability:	Stable under normal use, hazardous reactions occuring under specific conditions, such as overheating and overcharging.
Avoid material:	Conductive materials, water, seawater, strong oxidizers, strong acids, strongalkaline materials, organic solvents
Avoid contact with conditions:	When a battery cell is exposed to an external short-circuit, crushes,modification, high temperature above 100 ℃, it will be the cause of heat generation and ignition. Direct sunlight and high humidity.
Hazardous decomposition products:	Once batteries are breakage, split sulphuric acid should becareful which is corrosive, nonflammable liquid (thermal decomposition at 338℃) and destroys organic materials such as cardboard, wood, textiles and reacts with metals, producing hydrogen. Acrid or harmful gas is emitted during fire.

Part 11 Toxicological data

Acute toxicity:	No information available.
Skin corrosion/irritation:	May cause corrosion/irritation
Serious eye damage/irritation:	May cause irritation.

Respiratory or skin sensitization:	No sensitizing effects known.
Toxicokinetics, metabolism and distribution:	No information available.
CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):	No information available.

Part 12 Ecological data

This information is of relevance if the battery is broken and the ingredients are released to environment. In order to avoid damage to the sewage system, the acid has to be neutralized by means of time or sodium carbonate before disposal. Ecological damage is possible by change of pH. The electrolyte solution reacts with water and organic substances, causing damage to flora and fauna. The electrolyte may also contain soluble components of lead that can be toxic to aquatic environments. Leaking metals will easily penetrate the soil, polluting groundwater, and then into the fish life, crops, the destruction of the human living environment, an indirect threat to human health. More importantly, the contaminated soil will be permanently lose its use value.
The waste batteries contain heavy metals can not be biodegradable and can accumulate in vivo.

Part 13 Disposal

The nature of waste:	Hazardous waste
Waste disposal methods:	Dispose of batteries according to government regulations. Recommend sent to a special recycling bins of used batteries.
Notes waste:	Do not waste batteries and garbage mixed together, to be dealt with separately.

Part 14 Transportation information

Ensure that the product does not leak or overflow from the easy during transportation, and ensure that it does not collapse, fall or damage. Prevent the goods from collapsing and from rain during transportation. Containers must be handled with care and should not be marked by impact. The battery must be loaded according to the above considerations
The categories handled by sea transportation according to IMO IMDG Code
In accordance with special regulations 238, non-restrictive cargo conditions may be applied

Part 15 Regulatory information

In accordance with EU Battery Directive and the respective national legislation, Lead Acid batteries have to be marked by a crossed out dust bin with the chemical symbol for lead shown below, together with the

ISO return/recycling symbol.

Part 16 Other information

Other Information:	No information available.

Photo of sample

SFT21030318809E

*** End of MSDS ***