MSDS(Material Safety Data Sheet)

FirstPower Technology Co., Ltd .					
MATERIAL SAFETY DATA SHEET (MSDS)					
Updated: March. 17, 2007					
SECTION 1 PRODUCT IDENTIFICATION					
Chemical/Trade Name (as used on label)	**Chemical Family/Classification**				
Sealed Lead Acid Battery	Electric Storage Battery				
Manufacturer's Name	**Address**				
FirstPower Technology Co., Ltd	RM,L,M,N,15/F,FORTUNE PLAZA-A,NO.7060 SHENNAN ROAD, ShenZhen 518040 .China				
SECTION 2 CONTACT					
Firstpower Safety Department	Tel:86-755-83021386, 83021906				
SECTION 3 HAZARDOUS INGREDIENTS/IDENTITY INFORMATION					
Exposure Limits Material	**% By Wt.**	**CAS Number**	**Air Exposure Limits(ug/m3)**		
			OSHA	**AGGIH**	**NIOSH**
Lead	57	7439-92-1	50	150	100
Lead Oxide	22	1309-60-0	50	150	100
Electrolyte (sulfuric acid)	14	7664-93-9	1	1	1
(Note: Product contains toxic chemicals that are subject to the reporting requirements of Section 302 and 313 of the Emergency Planning and Community Right-to-Know Act of 1986).					
SECTION 4 : PHYSICAL/CHEMICAL CHARACTERISTIC DATA					
Material is Solid at normal temperatures.					
Electrolyte					
Boiling Point	230oF / 110oC	**Melting Point**	Lead 327.4oC		
Specific Gravity	1.215 - 1.350	**Vapor Density**	Not determined		
% Volatiles By Weight	Not Applicable	**Vapor Pressure**	Not determined		
Solubility in Water	100% (electrolyte)	**Evaporation Rate**	Not determined		
Appearance and Odor:					
Electrolyte is a clear liquid with a acidic odor					
SECTION 5 : HEALTH HAZARD INFORMATION					
Under normal operating conditions, the internal material will not be hazardous to your health. Only internally exposed material during production or case breakage or extreme heat (fire) may be hazardous to your health.					
Routes of Entry					
Installation	Acid mist from formation process may cause respiratory irritation.				
Skin Contact	Acid may cause irritation, burns and/or ulceration.				
Skin Absorption	Not a significant route of entry.				

Eye Contact	Acid may cause sever irritation, burns, cornea damage and/or blindness.
Ingestion	Acid may cause irritation of mouth, throat, esophagus and stomach.
Sign and Symptoms of Over Exposure:	
Acute Effects	Over exposure to lead may lead to loss of appetite, constipation, sleeplessness and fatigue. Over exposure to acid may lead to skin irritation, corneal damage of the eyes and upper respiratory system.
Chronic Effects	Lead and its components may cause damage to kidneys and nervous system. Acid and its components may cause lung damage and pulmonary conditions.
Potential to Cause Cancer	The International Agency for Research on Cancer has classified “strong inorganic acid mist containing sulfuric acid” as a Category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic 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.
Emergency and First Aid Procedures	
Inhalation	Remove from exposure and apply oxygen if breathing is difficult.
Skin	Wash with plenty of soap and water. Remove any contaminated clothing.
Eyes	Flush with plenty of water immediately for at least 15 minutes. Consult a physician.
Ingestion	Consult a physician immediately.
California Proposition 65	
The State of California has determined that certain battery terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm.	
Warming: Wash hands thoroughly after handling batteries.	
SECTION 6 FIRE AND EXPLOSION HAZARD DATA	
Flash Point	Hydrogen = 259oC
Auto ignition Temperature	Hydrogen = 580oC
Extinguishing Media	Dry Chemical, foam, CO2
Unusual Fire and Explosion Hazards	Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps. To avoid the chance of a fire or explosion, keep sparks and other sources of ignition away from the battery.
SECTION 7 REACTIVITY DATA	
Stability	Stable
Conditions to Avoid	Sparks and other sources of ignition
Incompatibility: (materials to avoid)	
1	Lead/lead compounds: Potassium, carbides, sulfides, peroxides, phosphorus, sulfur.
2	Battery electrolyte (acid): Combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, picrates, and fulminates.
Hazardous Decomposition Products	
1	Lead/lead compounds: Oxides of lead and sulfur.
2	Battery electrolyte (acid): Hydrogen, sulfur dioxide, and sulfur trioxide.
Conditions to Avoid	
High temperature. Battery electrolyte (acid) will react with water to produce heat. Can react with oxidizing or reducing agents.	
SECTION 8: CONTROL MEASURES	
Engineering Controls:	
Store lead/acid batteries with adequate ventilation. Room ventilation is required for batteries utilized for standby power generation. Never recharge batteries in an unventilated, enclosed space.	

Work Practices:	
Do not remove vent caps. Follow shipping and handling instructions that are applicable to the battery type. To avoid damage to terminals and seals, do not double-stack industrial batteries.	
SECTION 9 : PERSONAL PROTECTIVE EQUIPMENT	
Respiratory Protection:	
None required under normal handling conditions. During battery formation (high-rate charge condition), acid mist can be generated which may cause respiratory irritation. Also, if acid spillage occurs in a confined space, exposure may occur. If irritation occurs, wear a respirator suitable for protection against acid mist.	
Eyes and Face:	
Chemical splash goggles are preferred. Also acceptable are "visor-gogs" or a chemical face shield worn over safety glasses.	
Hands, Arms, Body:	
Vinyl coated, VC, gauntiet type gloves with rough finish are preferred.	
Other Special Clothing and Equipment:	
Safety shoes are recommended when handling batteries. All footwear must meet requirements of	
SECTION 10 : PRECAUTIONS FOR SAFE HANDLING AND USE	
Hygiene Practices:	
Following contact with internal battery components, wash hand thoroughly before eating, drinking, or smoking.	
Respiratory Protection:	
Wear safety glasses. Do not permit flames or sparks in the vicinity of battery(s). If battery electrolyte (acid) comes in contact with clothing, discard clothing.	
Protective Measures:	
a.	Remove combustible materials and all sources of ignition. Cover sills with soda ash (sodium carbonate) or quicklime (calcium oxide). Mix well. Make certain mixture is neutral then collect residue and place in a drum or other suitable container. Dispose of a hazardous waste.
b.	Wear acid-resistant boots, chemical face shield, chemical splash goggles, and acid-resistant gloves.
	Do not release un-neutralized acid.
Waste Disposal Method:	
Battery electrolyte (acid): Neutralize as above for a spill, collect residue, and place in a drum or suitable container. Dispose of as hazardous waste. Do not flush lead contaminated acid to sewer.	
Batteries:	
Send to lead smelter for reclamation following applicable Federal, state and local regulations. Product can be recycled along with automotive lead acid batteries.	
Other Handling and Storage Precautions:	
None Required.	
SECTION 11 : NFPA HAZARD RATING	
Sulfuric Acid:	
Flammability (Red) =	**0**
Health (Blue) =	**3**
Reactivity (Yellow) =	**2**
SECTION 12: DEPARTMENT OF TRANSPORTATION AND INTERNATIONAL	
SHIPPING REGULATIONS	
Proper Shipping Name	Batteries, Non-Spillable, Electric Storage

U. S. DOT(US Department of Transportation)	Unregulated, meets the requirement of 49 CFR 173.159(d)
IATA (International Air Transportation Association)/ ICAO (International Civil Aviation Administration)	Unregulated, meets the requirements of Special Revisions A67
IMO (International Maritime Dangerous Goods)	Unregulated
Comments:	
FIRSTPOWER seal lead-acid batteries are classified as "non-spillable" for the purpose of transportation by DOT, and IATA/ICAO as result of passing the Vibration and Pressure Differential Test described in DOT[49 CFR 173.159(d) and IATA/ICAO [Special Provision A67].	
FIRSTPOWER seal lead-acid batteries can be safely transported on deck, or under deck stored on either a passenger or cargo vessel as result of passing the Vibration and Pressure Differential Tests as described in the regulations.	
To transport these batteries as "non-spillable" they must be shipped in a condition that would protect them from short-circuits and be securely packaged so as to withstand conditions normal to transportation by a consumer, in or out of a device, they are unregulated thus requiring no additional special handling or packaging.	
For all modes of transportation, each battery outer package is labeled "NON-SPILLABLE" per 49 CFR 173.159(d). If you repackage our batteries either as batteries or as a component of another product you must label the outer package "NON-SPILLABLE" per 49 CFR 173.159(d).	