SDS (Material Safety Data Sheet)

Quanzhou Kaiyiing Power Supply & Electrical Equip Co., Ltd.

SECTION 1: PRODUCT IDENTIFICATION

Chemical/Trade Name (as used on label)	Chemical Family/Classification
Lead Acid Battery	Electric Storage Battery

Manufacturer's Name:	Address:
Quanzhou Kaiyiing Power Supply & Electrical Equip Co., Ltd.	Laogang Industrial Area, Anxi Town, Quanzhou City, Fujian Province, China

SECTION 2: CONTACT

Kaiying Engineering Department	86-595-68782239 or 86-595-68782222

SECTION 3: HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Exposure Limits			Air Exposure Limits (ug/m3)		
Material	by Wt.	CAS Number	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

SECTION 4: PHYSICAL/CHEMICAL CHARACTERISTIC DATA

Material is solid at normal temperatures.

Electrolyte:

Boiling Point:	230°F/110℃	Melting Point	Lead 327.4℃
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 an 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:

Sign and Symptoms of Over Exposure:

- 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.

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

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.
- 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. Warning: Wash hands thoroughly after handling batteries.

SECTION 6: FIRE AND EXPLOSION HAZARD DATA:

Flash Point:	Hydrogen = 259
Auto ignition Temperature:	Hydrogen = 580
Extinguishing Media:	Dry chemical, foam, CO_2

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

SECTION 7: REACTIVITY DATA:

Stability:	Stable
Conditions to Avoid:	Sparks and other sources of ignition.

Incompatibility: (materials to avoid)

Lead/lead compounds: Potassium, carbides, sulfides, peroxides, phosphorus, sulfur.

Battery electrolyte (acid): Combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, picrates, and fulminates.

Hazardous Decomposition Products:

Lead/lead compounds: Oxides of lead and sulfur.

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 ANSI Z41.1 - Rev. 1972.

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:

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.

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.

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 - Wet, Non-Spillable, Electric Storage
U.S. DOT (U.S. 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 Provisions A67
IMO (international maritime organization)	Unregulated
IMDG(International Maritime Dangerous Goods)	Unregulated,meets the requirements of Special Provisions 238

SECTION 13: DISPOSAL METHOD:

LONG WAY sealed 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 IMDG regulations.

SECTION 14: TRANSPORTATION INFORMATION

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 and 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).

SECTION 15: REGULATORY INFORMATION

LONG WAY sealed lead-acid batteries are classified as "non-spillable" for the purpose of transportation by IMDG, DOT, and IATA/ICAO as result of passing the Vibration and Pressure Differential Test described in IMDG [Special Provision 238],DOT [49 CFR 173.159 (d)] and IATA/ICAO [Special Provision A67].

SECTION 16: OTHER INFORMATION

PSN: LEAD ACID BATTERIES, NON-SPILLABLE electric storage.

UN NO.: 2800.

CLASS 8.

