

MATERIAL SAFETY DATA SHEET

SECTION 1: Chemical product and company identification

Updated: Mar. 7, 2013

Chemical/Trade Name (as used on label)	Chemical Family/Classification
Conventional Lead Acid Battery	Electric Storage Battery
Manufacturer's Name	Address
Chognqing Boya Power Technology Co, Ltd	Zone A, Industrial Park, Qijiang District, Chongqing ,401420 , China

CONTACT

FIRSTPOWER Safety Department	0086-23-87269666
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SECTION 2: Hazards identification

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 3: Composition / Information on ingredients

Material	Exposure Limits		Air Exposure Limits (ug/m ³)		
	% 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 : 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.

SECTION 5 : Fire fighting measures

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 6 : Accidental release measures

Remove combustible materials and all sources of ignition. Cover spills with soda ash (sodium carbonate) or quicklime (calcium oxide). Mix well. Make certain mixture is neutral then

- a. 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

- b. acid-resistant gloves.

Do not release un-neutralized acid.

SECTION 7 : Handling and storage

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.

Other Handling and Storage Precautions:

None Required.

SECTION 8: Exposure controls / Personal protection

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.

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, gauntlet 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 9 : Physical and chemical properties

Material is Solid at normal temperatures.

Electrolyte:

Boiling Point	230°F / 110°C	Melting Point	Lead 327.4°C
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 10 : Chemical stability and reactivity information

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 11 : Toxicological 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.
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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.

SECTION 12 : Ecological information

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 13 : Disposal considerations

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 (SLI) lead acid batteries..

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 with stand conditions normal to transportation by a consumer, in or out of a device, they are unregulated thus requiring no

additional special handling or packaging and batteries is packed to comply with IATA DG special provision

SECTION 15: Regulatory information

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

SECTION 16: Other information

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.

Material Safety Data Sheet



1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Motor Oil

Company Information:

Lubricating Oil Southwest Sales Branch, PetroChina Co., Ltd.
F12, Chengdu Stock Exchange Building
No.95, DongChengGenShang St.
Chengdu, 610015
Emergency phone: +86 13983772245
Fax: +86 2368679751
E-mail: zhlj_rhy@petrochina.com.cn

2. COMPONENT INFORMATION

COMPONENTS	CAS NUMBER	AMOUNT
base oil	Mixture	<15%weight
additive	Mixture	≥85%weight

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale-yellow to brown

Odor: Hydrocarbon – mild

Vapor Pressure: No data available

Physical state: Liquid

Vapor Density: No data available

PH: No data available

Percent Volatile by Volume: No data available

Boiling Point: No data available

Volatile Organic Content: No data available

Melting Point: No data available

Molecular Weight: No data available

Specific Gravity: About 860 kg/m³

Average Carbon Number: No data available

Pour Point: -15 F, -26.1 C

Viscosity @ 100 F: No data available

Viscosity @ 40 C: No data available

Solubility in Water: Negligible in water

Octanol / Water Coefficient: Log Kow = No data available

4. TOXICOLOGICAL INFORMATION

Primary Eye Irritation: No information available

Primary Skin Irritation: No information available

Acute Dermal Toxicity: No information available

Subacute Dermal Toxicity: No information available

Dermal Sensitization: No information available

Inhalation Toxicity: No information available

Inhalation Sensitization: No information available

Oral Toxicity: No information available

Mutagenicity: No information available

Carcinogenicity: The International Agency for Research on Cancer (IARC) has concluded that there is inadequate data to evaluate the carcinogenicity to experimental animals of this class of product. IARC has concluded there is sufficient evidence that used gasoline-engine motor oils produce skin tumors in experimental animals. Also, IARC has determined this class of products belongs to Group 3-"not classifiable as to its carcinogenicity to humans".

Reproductive and Developmental Toxicity: No information available

Teratogenicity: No information available

Neurotoxicity: No information available

Other: No information available

5. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable

Conditions to Avoid: High heat and open flames.

Incompatible Materials to Avoid: May react with strong oxidizing agents.

Other: No information available

6. HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

7. FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with a mass of water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

8. FIRE FIGHTING MEASURES

Flammable Properties

Flash Point: 415 F, 212.8 C Test Method: ASTM 3278 - Closed Cup

Autoignition Temperature: No data available

NFPA Classification: Class III-B combustible liquid

Extinguishing Media: Use dry chemical, foam, or carbon dioxide.

Unusual Fire and Explosion Conditions: Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion.

Hazardous Combustion By-Products: None

9. ACCIDENTAL RELEASE MEASURES

Personnel Safeguards: Wear safe glove and safe glasses. Avoid direct physical contact with the product.

Regulatory Notifications: Notify appropriate authorities of spill.

Containment and Clean up: Contain spill immediately. Do not allow spill to enter sewers or watercourses. Absorb with appropriate inert material such as sand, clay, etc. Large spills may be picked up using vacuum pumps, shovels, buckets, or other means and placed in drums or other suitable containers.

10. HANDLING AND STORAGE INFORMATION

Handling: Fire extinguishers should be kept readily available.

Storage: Do not transfer to unmarked containers. Store in closed containers away from heat, sparks, open flame, or oxidizing materials.

Empty Container Warnings

Drums: Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

Plastic: Empty container may retain product residues.

Other: No information available

11. DISPOSAL INFORMATION

Regulatory Information: All disposals must comply with local applicable regulations. The material, if spilled or discarded, may be a regulated waste. Refer to applicable regulations.

Caution! If regulated solvents are used to clean up spilled material, the resulting waste mixture may be regulated.

Waste Disposal Methods: Waste material may be land filled or incinerated at an approved facility.

Materials should be recycled if possible.

12. Regulatory Information

Chemical safety management regulation:

Safety Management Ordinance of Dangerous Chemicals (Feb. 17, 1987, State Council of China),

Classification and Symbols of Commonly Dangerous Chemicals (GB 13690-92)

Safety in the use of chemicals:

Classification Principle of Transport Packaging Category for Dangerous Goods)GB / T 15098-94)