

Safety Data Sheet
According to Hazard Communication Standard (29 CFR 1910.1200)

Lead-acid batteries

Version 1.0

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SDS record number: C555-TCO-010-140323

1. Product and Company Identification

Material name Lead-acid batteries
Model No. 12V5AH、6AH、7AH、12AH、22AH
CAS # See section 3
Product code -
Product use Battery.
Manufacturer/Supplier
Supplier(Manufacturer): ZHEJIANG XIANGRUI SHANYANG POWER CO.,LTD
Address: No.3, Weisan East Road, Shangyu Industrial Area, Hangzhou Bay, Shangyu District, Zhejiang Province, P.R.China
Contact person(E-mail): yhc.5902@163.com
Telephone: +86-17706569077
Fax: +86-575-88030533
Emergency telephone Number: +86-13567555902

2. Hazards identification

GHS classification

Physical hazards Not classified
Health hazards Not classified
Environmental hazards Not classified

GHS label elements

Hazard Pictograms No hazard pictogram is used.
Signal word No signal word is used.
Hazard statement Not applicable.

Precautionary statement

Prevention Not applicable.
Response Not applicable.
Storage Not applicable.
Disposal Not applicable.

3. Composition / Information on Ingredients

Components	CAS#	Percent
Lead / lead oxide	7439-92-1	50-60%
Sulfuric acid	7664-93-9	20%
ABS plastic	9003-56-9	10-12%
Water	7732-18-5	5%
Calcium	7440-70-2	0.2%
Other	N/A	5%

4. First Aid Measures

First aid procedures

Eye contact No special measures required. If eyes contact with electrode, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Skin contact Continue rinsing. Get medical advice/attention immediately.
 No special measures required. If skin contact with electrode, take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center/doctor.

Inhalation Not happen. If inhale the powder/vapor from electrode, remove person to fresh air and keep comfortable for breathing, Immediately call a poison center/doctor.

Ingestion Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor.

Notes to physician Treat symptoms.

5. Fire Fighting Measure

Flammable properties Not flammable

Extinguishing media

Suitable extinguishing media CO2, powder, sand, water spray.

Unsuitable extinguishing media Not available.

Firefighting equipment/instructions Use water spray to cool unopened containers. Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products May produce corrosion gas/vapor from the product under fire.

6. Accidental Release Measures

Personal precautions Use personal protective equipment. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental precautions Should not be released into the environment. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up Neutralize the liquid, and absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust); Do not flush with water or aqueous cleansing agents; Dispose contaminated material as waster according to item 13.

7. Handling and Storage

Handling Do not handle until all safety precautions have been read and understood; Use only outdoors or in a well-ventilated area; Keep container tightly closed; Handle with care; Check the container, if broken, stop handle; Avoid short circuit; Wear protective gloves/protective clothing/eye protection/face protection; Prevent electrode to contact with eyes and skin.

Storage Store in cool, dry and well-ventilation location. Separate from incompatible materials and from activities which may create flames, sparks, or heat. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit. Store on flat ground, keep the container closed.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Lead / lead oxide (CAS 7439-92-1)	TWA	0.05 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sulphuric Acid (CAS 7664-93-9)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Lead / lead oxide (CAS 7439-92-1)	TWA	0.05 mg/m3	
Sulphuric Acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Lead / lead oxide (CAS 7439-92-1)	TWA	0.05 mg/m3
Sulphuric Acid (CAS 7664-93-9)	TWA	1 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Lead / lead oxide (CAS 7439-92-1)	300 µg/l	Lead	Blood	*

- For sampling details, please see the source document.

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Individual protection measures, such as personal protective equipment:

Eye / face protection	None required under normal conditions. If battery case is damaged, chemical goggles or face shield.
Skin protection	None required under normal conditions. If battery case is damaged, use rubber or plastic acid-resistant gloves with elbow-length gauntlet, acid-resistant apron, clothing, and boots.
Respiratory protection	None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection.
General hygiene considerations	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

9. Physical & Chemical Properties

Appearance

Physical state	Solid
Form	Solid
Color	Multicolor
Odor	Odorless
Odor threshold	Not available
pH	Not available
Vapor pressure	Not available
Vapor density	Not available
Boiling point	Not available
Melting point/Freezing point	>300°C
Solubility (water)	Part is soluble in water
Specific gravity	Not available
Relative density	Not available
Density	Not available
Flash point	Not available
Flammability limits in air, upper, %by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability (solid, gas):	Not flammable
Auto-ignition temperature	Shell: about 675°C

VOC	Not available
Percent volatile	Not available
Explosive properties:	Not explosive
Oxidising properties:	Not available
Other data	
Viscosity	Not available

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Incompatible materials. High temperature and flame condition.
Incompatible materials	Acid and strong oxidizing agent.
Hazardous decomposition products	Corrosion gas/vapor.
Possibility of hazardous reactions	No dangerous reactions known.

11. Toxicological Information

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: Not available

Information on toxicological effects:

Acute toxicity:

Sulphuric acid (CAS#7664-93-9)

LD50(Oral, Rat):	2 140 mg/kg bw
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

12. Ecological Information

Toxicity:

Sulphuric acid (CAS#7664-93-9)

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	> 100 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50	> 100 mg/L	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability:	Not available.
Bioaccumulative potential:	Not available.
Mobility in soil:	Not available.
Results of PBT&vPvB assessment:	Not available.
Other adverse effects:	No known significant effects or critical hazards.

13. Disposal Considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Must not be disposed together

with household garbage.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

UN2800

Proper shipping name: BATTERIES, WET, NON-SPILLABLE

Hazard class:8

SPECIAL PROVISION(S): 238

NOTE

This product has passed the vibration test, pressure differential test and leakage test at 55 °C according to the TRANSPORT OF DANGEROUS GOODS Model Regulations Chapter 3.3 SPECIAL PROVISIONS 238(a) and (b).

The batteries meet the above conditions. They are packed in inner packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits.

IMDG: the product meets the requirements of Special Provisions 238.

DOT: The product meets the requirements of 49CFR 173.159(d).

IATA: The product meets the requirements of Packing Instructions 872 and Special Provision A67.

Therefore, the product is **transported as non-dangerous goods.**

DOT

Basic shipping requirements:

UN number	Not Regulated
Proper shipping name	Not Regulated
Hazard class	Not Regulated
Packing group	-
Environmental hazards	No

IATA

UN number	Not Regulated
UN proper shipping name	Not Regulated
Transport hazard class(es)	Not Regulated
Packing group	-
Environmental hazards	No

IMDG

UN number	Not Regulated
UN proper shipping name	Not Regulated
Transport hazard class(es)	Not Regulated
Packing group	-
Environmental hazards	No

15. Regulatory Information

US federal regulations

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Lead / lead oxide (CAS 7439-92-1) Listed.

Sulphuric Acid (CAS 7664-93-9) Listed.

SARA 304 Emergency release notification

SULFURIC ACID (CAS 7664-93-9) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Lead / lead oxide (CAS 7439-92-1) Reproductive toxicity
Central nervous system
Kidney
Blood
Acute toxicity

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sulphuric Acid	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Lead	7439-92-1	50-60%
Sulphuric Acid	7664-93-9	20%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Lead / lead oxide (CAS 7439-92-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Sulphuric Acid (CAS 7664-93-9)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulphuric Acid (CAS 7664-93-9) 6552

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulphuric Acid (CAS 7664-93-9) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Sulphuric Acid (CAS 7664-93-9) 6552

US state regulations

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Lead / lead oxide (CAS 7439-92-1) Listed: October 1, 1992

Sulphuric Acid (CAS 7664-93-9) Listed: March 14, 2003

California Proposition 65 - CRT: Listed date/Developmental toxin

Lead / lead oxide (CAS 7439-92-1) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Female reproductive toxin

Lead / lead oxide (CAS 7439-92-1) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Lead / lead oxide (CAS 7439-92-1) Listed: February 27, 1987

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Lead / lead oxide (CAS 7439-92-1)

Sulphuric Acid (CAS 7664-93-9)

16. Other Information

HMIS® ratings

Health:0

Flammability: 1

Physical hazard: 0

NFPA ratings

Health: 0

Flammability: 1

Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

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Author:Hangzhou C&K Testing Technic Co.,Ltd Website:www.cirs-ck.com Tel:0571-89900715 Email:test@cirs-group.com