Safety Data Sheet

1. Identification of the Substances/Preparation and of the Company/Undertaking

Product Details

Trade Name: *Lead acid batteries (without electrolyte)*

End Use: *Used as DC power supply of electric forklift, electric storage vehicle and electric tractor. Used for starting and lighting of automobiles, motorcycles, tractors and internal combustion forklifts. Used as electric power supply for electric vehicles.*

Manufacturer/Supplier: *JIANGSU HAPPY POWER SUPPLY (LIANSHUI) CO., LTD.*

Address: *South of the West Avenue, Red Sun Avenue, Economic Development Zone, Lianshui County, Huaian City, Jiangsu Province, China*

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2. Hazards Identification

2.1 Classification

Classification according to GHS

Not classified as hazardous(belonging to article, not a substance or mixture, not applicable to classification).

2.2 Labeling Elements

Pictogram(s): *Not applicable.*

Signal Word: *Not applicable.*

Hazard Statement(s): *Not applicable.*

Prevention Precautionary Statement(s): *Not applicable.*

Response Precautionary Statements: *Not applicable.*

Storage Precautionary Statements: *Not applicable.*

Disposal Precautionary Statements: *Not applicable.*

2.3 Other hazards: *In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment. If the battery breaks, contact the internal lead compound directly: Harmful if swallowed. Harmful by inhalation. May cause cancer. May damage fertility. May damage the unborn child. May cause harm to breast-fed children. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion. Very toxic to aquatic life with long lasting effects.*

3. Composition information on Ingredients

Chemical Characterization

Description: *Articles: consisting of the following components.*

Components Name	*CAS#*	*EINECS#*	*Weight %*
Lead	*7439-92-1*	*231-100-4*	*80—85*
Polypropylene	*9003-07-0*	*618-352-4*	*8—10*
Antimony	*7440-36-0*	*231-146-5*	*2.8—3*
Polyethylene	*9002-88-4*	*618-339-3*	*2—2.5*
Rubber	*Polymer*	*Polymer*	*1—1.5*
Medium-alkali fiber glass	*Mixture*	*Mixture*	*1—1.5*
Calcium	*7440-70-2*	*231-179-5*	*0.15—0.18*

4. First-Aid Measures

4.1 First-aid measures

Eye Contact: *There isn't hazard with normal use. If the internal chemicals from broken batteries contact with eyes, flush immediately with plenty of running water or physiological saline for at least 15 minutes. Consult physician. Consult a physician.*

Skin Contact: *There isn't hazard with normal use. If contact electrodes, flush thoroughly with soap and large amount of water. Consult a physician.*

Inhalation: *Inhalation is unlike entry under normal condition. If contact electrodes, move to fresh air immediately. Consult a physician.*

Ingestion: *Ingestion is unlike entry as the form of the product. If swallowed lead or antimony, seek immediate medical advice.*

4.2 Acute or chronic effects:

Acute effects: *Battery is considered as sealed non-spilled one. Under normal operating conditions, the materials sealed inside should not be hazardous to people's health. Only when these materials exposed during production or under case broken condition or being extremely heated (fired), they may be hazardous to people's health. The internal chemical substances include toxic lead, antimony. Acute ingestion of lead and antimony may cause abdominal pain, nausea, vomiting, diarrhea and severe cramping. This may lead rapidly to systemic toxicity and must be treated by a physician.*

Chronic effects: *No data available.*

4.3 Note to Physician: *Treat symptomatically.*

5. Fire-Fighting Measures

Suitable Extinguishing Media: *Extinguish with dry chemical, carbon dioxide or sand. CO_2 should not directly impact to the batteries. The thermal shock may cause cracking of the battery case and/or cases. Do*

not use water.

Special Hazards Arising from the Chemical: *Lead Compounds: Temperatures above the melting point are likely to produce toxic metal fume, vapor,or dust.*

Special Protective Actions for Fire-fighters: *Fire-fighters should wear self-contained breathing apparatus and acid-resistant clothing, boots, gloves. Ensure adequate ventilation. Keep run-off water out of sewers and water sources.*

6. Accidental Release Measures

Personal Precautions, Protective equipment and Emergency Procedures: *Isolate spill or leak area in all directions. Keep unauthorized personnel away. nsure adequate ventilation. Use personal protective equipment. Avoid contact with skin and eyes. Do not breathe dusts. See section 8 for protection equipment.*

Precautions to Protect the Environment: *Prevent further leakage or spillage if safe to do so. Do not let product enter environment.*

Methods and Materials for Containment and Cleaning Up: *Remove all sources of ignition. Provide ventilation. Sweep and shovel off the leakage. Placed in a suitable closed container for further treatment. For recycle or disposal according to local regulations (see section 13).*

7. Handling and Storage

Precautions for Safe Handling:

Follow the normal safety precautions of battery.

Keep in good ventilated condition.

Avoid using external forces to hit the battery and avoid leakage and spilliage.

Do not expose the battery to high temperatures or open flames. Avoid direct sunlight.

If the battery case is damaged, avoid contact with the internal components of the battery.

Conditions for Safe Storage:

Store in a without direct sunlight, cool, dry and well-ventilated area below 35 degrees Celsius.

Keep away from heat and sources of ignition.

Do not store together with activities materials that may create flames, sparks or heat.

Keep away from incompatible materials.

Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit.

Keep out of reach of children.

8. Exposure Controls/Personal Protection

Control parameters:

Exposure Limits: There isn't requirement for the exposure limits as the form and the use of the product.

Appropriate Engineering Controls: *As the use of the product, none mechanical ventilation is needed*

with normal use. Just provide enough natural ventilation.

Individual protective measure:

Respiration Protection: *None personal protective equipment is needed under normal and intended conditions. Wear anti-poison respirator if exposed to broken batteries*

Eye Protection: *No special requirements with normal household use. Wear chemical safety glasses when emergency.*

Hands Protection: *No special requirements with normal household use. Use rubber or latex protective gloves when handling leaking batteries.*

Skin Protection: *No special requirements with normal household use. Wear protective clothing when emergency.*

Hygiene Measures: *Use only as directed of the instructions. Maintain good hygiene habits.*

9. Physical and Chemical Properties

Appearance:	*Square plastic case*
Color:	*Black, white, Green or grey case*
Odor:	*Odorless*
Odor threshold value:	*N/A*
pH:	*N/A*
Melting/ Freezing Point:	*N/A*
Boiling Point:	*N/A*
Flash Point:	*N/A*
Ignition Temperature:	*N/A*
Explosion Limits in Air:	*N/A*
Flammable:	*Non-flammable*
Evaporation Rate:	*N/A*
Vapor Pressure:	*N/A*
Vapor Density:	*N/A*
Specific Gravity:	*N/A ℃*
Solubility in water:	*Insoluble in water*
Partition coefficient(n-octanol/ water):	*N/A*
Auto-combustion Temperature:	*N/A*

Viscosity:	*N/A*

10. Stability and Reactivity

Reactivity: *No data available.*

Stability: *The batteries are stable under normal operating conditions.*

Hazardous Reactions: *No data available.*

Conditions to Avoided: *Heat, open fire.*

Incompatible Materials: *Strong sulfuric acids, strong nitric acids, organic solvent, combustibles, strong reducing agents, metals, strong oxidizers and water, etc.*

Hazardous Decomposition Products: *Carbon monoxide, carbon dioxide, metal smoke, etc.*

11. Toxicological Information

Acute Toxicity: *The batteries are non-toxic under normal conditions of use, because hazardous substances are sealed in the sealed cases.*

Components Name	***LC/LD50***
Lead	*LDLO: 160mg/kg (Dove, Oral)*
Polypropylene	*LD50＞5g/kg(Rat, Oral)*
Antimony	*LD50: 7g/kg (Rat, Oral)*
Polyethylene	*LD50＞3g/kg(Rat, Oral)*
Rubber	*No data available*
Medium-alkali fiber glass	*No data available*
Calcium	*No data available*

Skin Corrosion/Irritation: *No skin irritation with normal use.*

Serious Eye Damage/Eye Irritation: *No risk into eyes with normal use.*

Respiratory or Skin Sensitization: *No sensitization has been reported.*

Germ Cell Mutagenicity: *No relevant information.*

Carcinogenicity: *Lead is listed as a carcinogen by IARC. Group 2B, likely in animals at extreme does. Proof of carcinogenicity in humans is lacking at present.*

Reproductive Toxicity: *Lead： May damage fertility. May damage the unborn child. May cause harm to breast-fed children. Lead is known to the state of California to cause reproductive harm.*

Specific Target Organ Toxicity - Single Exposure: *No relevant information.*

Specific Target Organ Toxicity - Repeated Exposure:

Lead： Causes damage to organs through prolonged or repeated exposure.

Affected organs: Causes damage to central nervous system, blood and kidneys through prolonged or

repeated exposure by inhalation or ingestion.

Route of exposure: oral and inhalation.

Aspiration Hazard: *No relevant information.*

12. Ecological Information

Ecotoxicity: *No ecotoxicity data is available for the sealed batteries. The internal substances are toxic to aquatic life and with long lasting effects.*

Components Name	***LC50/EC50***
Lead	*Lead:* *Toxicity to fish mortality LOEC - Oncorhynchus mykiss (rainbow trout) - 1,19 mg/l - 96,0 h* *LC50 - Micropterus dolomieui - 2,2 mg/l - 96,0 h* *mortality NOEC - Salvelinus fontinalis - 1,7 mg/l - 10,0 d*
Polypropylene	*No data available*
Antimony	*No data available*
Polyethylene	*No data available*
Rubber	*No data available*
Medium-alkali fiber glass	*No data available*
Calcium	*TLm: 240ppm/48h (Gambusia affinis)*

Persistence/Degradability: *The plastic case is not easy to biodegrade. The other components are inorganic.*

Bioaccumulation: *Lead：Bioaccumulation Oncorhynchus kisutch - 2 Weeks- 150 µg/l. Bioconcentration factor (BCF): 12.*

Mobility in soil: *The mobility of compounds in soil are very low.*

Potential Effect on Environment: *Batteries may pollute the soil for decades and with long lasting effects. Waste disposal methods see section 13.*

13. Disposal Considerations

Waste Disposal Property: *Dangerous waste.*

Waste Disposal Methods:

For undamaged waste: Do not discard everywhere. Suggest recovery and unified disposal. Send to a special waste recycling station for chemical treatment.

For damage batteries: Collect up and put into a covered container. Send to a waste recycling station with relevant qualifications for chemical treatment.

Observe all federal, state, and local environmental regulations before disposed.

Contaminated packaging: *Disposed as normal household waste.*

14. Transport Information

Dry battery is not classified as dangerous goods.

According to IATA, IMO/IMDG, ADR/RID

UN number: *Non-applicable.*

Proper shipping name or Technical Name: *Non-applicable.*

Transport Hazard Class: *Non-applicable.*

Packing Group: *Non-applicable.*

Environmental hazards for Transport Purposes: *Marine Pollutant: Yes（lead）*

Special precautions for user:

Special precautions: Non-applicable.

Physico-Chemical properties: See section 9.

Limited quantities: Non-applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: *Non-applicable.*

15. Regulatory Information

USA Regulations

TSCA Section 8(b): *All components are listed on the TSCA inventory.*

TSCA Section 12(b): *The product is not listed under TSCA Section 12(b).*

SARA Title III/EPCRA:

SARA section 304 EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.

SARA section 313 Toxic Chemical (40 CFR 372.65): Lead and antimony are reported.

CERCLA Hazardous Substances and Corresponding RQs:

CERCLA Reportable Quantity (RQ) (40 CFR 302.4):

Lead: 10 pounds.

Antimony: 5,000 pounds.

Clean Air Act:

CAA Section 112(r): Not listed.

Hazardous air pollutants: Lead compounds are listed.

Class 1 or Class 2 Ozone Depletors: Not listed.

Clean Water Act:

CWA Section 311 Hazardous Substance (40 CFR 117.3): not listed.

CWA Section 303 Priority Pollutants: Lead and antimony are listed.

CWA Section 307 Toxic Pollutants: Lead and antimony are listed.

OSHA: *Lead and its compounds are considered as carcinogens and cause reproductive harm by OSHA. Classification of carcinogens: 2B.*

California Proposition 65: *Battery posts, terminals and related accessories contain lead and lead compounds, chemicals know to state of California to cause cancer and reproductive harm.*

Canadian Regulations

DSL Status: *All of components are listed on the Canadian DSL list.*

EU Regulations

Regulation (EC) 2037/2000, about substances that deplete the ozone layer: *Non-applicable.*

Battery Directive 2013/56/EU: *Passed.*

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical product: *Non-applicable.*

Authorization List (Annex XIV REACH, etc): *Non-applicable.*

Limitations to commercialization and the use of certain dangerous substances and mixture (Annex XVII REACH, etc): *Non-applicable.*

16. Other Information

Further Information:

·*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

·*This safety data sheet was prepared in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Rev. 7.*

Department Issuing SDS: *JIANGSU HAPPY POWER SUPPLY (LIANSHUI) CO., LTD.*

Issue Date: *May 25, 2019*

This SDS Service is Provided by ZHEJIANG LANDER STANDARD TECHNOLOGY CO., LTD.
Signed for and on behalf of
Lander Testing Lab

Liu Lingnan
Chemistry Lab Engineer
Date: May 25, 2019

**********End**********