MATERIAL SAFETY DATA SHEET

Section 1. Chemical product and company identification
MSDS Name: Valve Regulated Sealed Lead-Acid Batteries
Manufacturer: Jiangxi Hengli Technology Battery Co., Ltd
Address: No.128, Yingbin Avenue, Fuzhou Industrial Park, Fuzhou City, Jiangxi Province, China 344000
Tel: +86-794-8242174, Fax: +86-794-8242187

Section 2. Composition /Information on Ingredients:
Chemical Nature: Lead, Lead Oxide, Lead Sulfate, Sulfuric Acid
CAS-No/EINECS NO.: List as below
Tariff No. 85072000
Dangerous ingredients which have to be mentioned according to 99/45/EEC and it adaptations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>HAZARDOUS</th>
<th>TLV(UNITS)</th>
<th>RISK PHRASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No.</td>
<td>% by weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>60</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>7439-92-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Oxide</td>
<td>23</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>1309-60-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead Sulfate</td>
<td>1</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>7446-14-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric Acid</td>
<td>8</td>
<td>1.25-1.35g/m³</td>
<td></td>
</tr>
<tr>
<td>7664-93-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 3. Hazards identifications
General: The Valve-regulated lead-acid batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there’s risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Contact with internal components may cause irritation or burns to eyes and skin. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken. Do not eat/drink the product.

Section 4. First –aid measures:
Inhalation: In case of excessive inhalation remove the person to fresh air and at rest Obtain medical advice.
Skin Contact: Remove contaminated clothing. Wash affected areas with plenty of water and soap. If irritation occurs, consult a physician.
Eye contact: Rinse eyes immediately with running water for at least ten minutes. Consult an ophthalmologist.
Ingestion: Rinse mouth with water Give plenty of water to drink. Do not induce vomiting. Obtain medical advice.
Section 5. Fire-fighting measures
Suitable extinguishing media: Carbon dioxide (CO2), foam, dry chemical powder.
Extinguishing media not to be used: Never use a direct water jet.
Personal protective equipments: Wear full protective clothing. Use self-contained breathing apparatus.

Section 6. Accidental release measures:
Personal precautions: Wear protective clothing. Keep unprotected persons away.
Environmental precautions: Avoid discharge and penetration into sewerage systems, waterways, pits, and cellars.
Methods for cleaning up: Collect spilled material with an insert standard absorbent like sand or silica. Care for well-ventilated conditions. Recycle or dispose of the materials in an appropriate way.

Section 7. Handling and storage
General: Obey the common known rules and precautions for handling with chemicals.
Storage: Store product in well-filled, appropriate coated and tightly closed containers avoiding influence of oxygen/air, light and humidity. Store at a cool and constant temperature.

Section 8. Exposure controls/Personal protection
Exposition/Technical measures: Atmospheric vapor concentrations must be minimized by adequate ventilation.
Protection of hands, eyes and skin: To protect hands, eyes and skin, the use of appropriate chemical resistant gloves, safety glasses and suitable protective clothing is strictly recommended.

9. Physical and chemical properties of Electrolyte
Physical state: liquid
Color: clear
Odor: acidic odor
pH value: not determined
Specific gravity: 1.215-1.350 (at 25°C)
Auto flammability: not determined
Melting Point: lead 327.4°C
Freezing Point: not determined
Solubility in water: soluble
Vapor pressure: no applicable
Explosion limit: not applicable
Oxidizing properties: not applicable
Flashpoint: none
Partition coefficient: not determined
Boiling Point: 1515°C

Section 10. Stability and Reactivity
Good stability at standard temperature.
Reactivity: Avoid contact with acids. Alkali or strong oxidizing agents.
Hazardous decomposition products: carbon monoxide and unidentified organic compounds may be formed during combustion.

Section 11. Toxicological information
The product is multi component mixture for which no toxicological data exists.
This preparation is classified XI, N R38-43.
Section 12. Ecological information
In general, no ecological date is available for preparations.
Precautions Avoid disposing into drainage systems and in the environment.

Section 13. Disposable considerations
Do not dispose of in environment or into sewerage. If recycling is not possible, the product and its container have to be disposed of in accordance with your local legislation and regulations.

Section 14. Transport Information
We hereby certify that the batteries conform to the UN2800 classification as “Batteries, wet, Non-Spillable, electric storage”. We further certify that under (I.A.T.A.) Dangerous Goods Regulation, 41st edition, UN2800 provision A67 and the (D.O.T.), CFR 49 Section 173.159 paragraph d., the batteries having met the related conditions are EXEMPT from hazardous goods regulations, and therefore are unrestricted for Transportation by any means.
For you reference:
IATA Dangerous Goods Regulation, 44th Edition, Section 4.5A, Special Provision;
A67 Non-spillable batteries are considered to be non-dangerous if at a temperature of 55 deg. C(130 deg. F), the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, when packaged for transport, the terminals are protected from short circuit.

So it is General cargo, not DG cargo.

Section 15. Regulatory Information
Symbol: N/A

R/S-Phrases:
R38 Irritation to skin
R43 May cause sensitization by skin contact
S2 Keep out of reach of children
S24 Avoid contact with skin
S37 Wear suitable gloves
S61 Avoid release to environment. Refer to special instructions.

Section 16. Other information
The information on this Material Safety Data Sheet (MSDS) was obtained from current and reputable sources. However, the data is provided without any warranty; expressed or implied, regarding its correctness or accuracy. It is the user’s responsibility to assume liability on loss, injury, damage, or expense resulting from improper use of this product. Any previous MSDS of this product mentioned above are hereby replaced with this new document.
We urge you to make this information available as appropriate in your organization and to any others with whom you arrange to handle this product.

MSDS Preparation Date: 8/30/2013
Section 1 product and company identification

Product name: Valve-regulated lead-acid battery
Trademark: RITAR
Company name: Shenzhen Ritar power Co., Ltd.
Address: No.9 Bldg., Fuqiao 2 industrial area, Fuyong town, Shenzhen city, China.
Post code: 518103
E-mail: info@ritarpower.com
Fax: 0755-27303413
Emergency Phone: 0755-27303361

Section 2 composition/information on ingredients

Pure chemical □ Mixture ■

Chemical ingredients:

<table>
<thead>
<tr>
<th>Chemical ingredient</th>
<th>Molecular formula</th>
<th>Content (about)</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead and lead oxide</td>
<td>Pb, PbO₂</td>
<td>60-70</td>
<td>7439-92-1, 1309-60-0</td>
</tr>
<tr>
<td>Calcium</td>
<td>Ca</td>
<td>&lt;0.15</td>
<td>7440-70-2</td>
</tr>
<tr>
<td>Tin</td>
<td>Sn</td>
<td>&lt;1</td>
<td>7440-31-5</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>H₂SO₄</td>
<td>10-15</td>
<td>7664-93-9</td>
</tr>
<tr>
<td>ABS</td>
<td></td>
<td>5-10</td>
<td>9003-56-9</td>
</tr>
<tr>
<td>AGM separator</td>
<td></td>
<td>3-4</td>
<td></td>
</tr>
</tbody>
</table>

Section 3 hazards summarizing

Classification of Danger: (see section 14)

Invasion Route: eyes, skin contact, ingestion

Health Hazard: The Valve-regulated lead-acid batteries are not hazardous when used according to the instructions of the manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Contact with internal components may cause irritation or burns to eyes and skin. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

Environmental Hazard: The internal electrolyte may cause adverse environmental impacts

The Danger of Burning and Exploding: May occur fire or explosion in high temperature or short circuit.
Section 4 first-aid measures

The valve-regulated lead-acid batteries are not hazardous with eye and skin contact under normal circumstance. In case of internal hazardous substance leaking, following measures should be taken if body parts contact with these substance:

AFTER SKIN CONTACT:
In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT:
In case of contact, flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.

AFTER INHALATION:
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER INGESTION:
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Section 5 fire-fighting measures

Characteristics of Hazard: Toxic fumes; gases or vapors may evolve on burning.
Hazardous Combustion Products: CO, CO2, acid, hydrogen and oxygen gas
Fire-extinguishing Methods and Extinguishing Media: Carbon dioxide, dry chemical powder, or appropriate foam
Attention in Fire-extinguishing: The Firemen should put on antigas masks and full fire-fighting suits.

Section 6 accidental release measures

When leakage of batteries happens, liquid could be absorbed with sands, earth, or other inert substance, and the contaminated area should be ventilated meantime. Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

Section 7 handling and storage

Handling: don’t handling the batteries in manner that allows terminals to short circuit
Storage: Store and used far away from heat, sparks, open flame, or other heat ignition sources, and under room temperature(<30℃) in ventilating and dehumidifying environments

Section 8 exposure controls/personal protection

Maximum Allowable Concentration: No Standard available
Engineering Controls: no engineering controls are required for handling batteries that have not been damaged.
Personal protective equipments for damaged batteries should include chemical resistant gloves and safety glasses.
Section 9 Physical and Chemical Properties
Not applicable

Section 10 stability and reactivity
Stability: Stable under normal temperatures and pressures.
Incompatibility: oxidizing agents
Conditions to Avoid: Heat and open flame, short circuit, and water
Hazardous polymerization: Will not occur
Decomposition Products: CO, CO₂, acid, hydrogen and oxygen gas

Section 11 toxicological information
This product does not elicit toxicological properties during routine handling and use.

Section 12 ecological information
Ecological toxicity: N/A
Biodegradability: N/A
Non-biodegradability: N/A
Other hazardous: The internal electrolyte may cause adverse environmental impacts

Section 13 disposal
Waste Treatment: Recycle or dispose of in accordance with government, state & local regulations.
Attention for Waste Treatment: Deserted batteries couldn’t be treated as ordinary trash. Couldn’t be thrown into fire or placed in high temperature. Couldn’t be dissected, pierced, crushed or treated similarly. Best way is recycling.

Section 14 transport information
UN NO. N/A
Proper shipping name: N/A
Packing group: N/A
ICAO/IATA | IMDG CODE | DOT
---|---|---
Not-regulated | Not-regulated | Not-regulated
Can be shipped by air in accordance with International Air Transport Association (IATA), DGR Packing Instructions (PI), PI806 appropriate and Special Provision A67 | International Maritime Organization (IMO) under Special Provision 238 | Non-Spillable Battery complies with the provisions listed in 49 CFR 173.159(d), therefore must not be marked with an identification number or hazardous label and is not subject to hazardous shipping paper requirements.

Batteries must be securely packed to short-circuiting

**Section 15 regulatory information**


**Section 16 other information**


The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.