VISION Valve Regulated Lead Acid Battery

MATERIAL SAFETY DATA SHEET

SECTION 1 - GENERAL INFORMATION

MANUFACTURER'S NAME: SHENZHEN CENTER POWER TECH CO.LTD

EMERGENCY TELEPHONE NO.: 86-755-84318088

ADDRESS: CENTER POWER INDUSTRIAL PARK TONGFU INDUSTRIAL DISTRICT DAPENG TOWN CHINA

OTHER INFORMATION CALLS: 86-755-84318031

PERSON RESPONSIBLE FOR PREPARATION: Shouzhong Yi, Safety, Health & Environmental Affairs Manager

Revised Date: JAN. 01, 2012

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>C.A.S.</th>
<th>PRINCIPAL HAZARDOUS COMPONENT(S) (chemical &amp; common name(s))</th>
<th>Hazard Category</th>
<th>% Weight</th>
<th>ACGIH TLV - mg/m³</th>
<th>OSHA PEL/TWA - mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-92-1</td>
<td>Lead/Lead Oxide (Litharge)/Lead Sulfate</td>
<td>Acute-Chronic</td>
<td>60-70</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>7440-70-2</td>
<td>Calcium (lead calcium alloy)</td>
<td>Reactive</td>
<td>&lt;0.15</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>7440-31-5</td>
<td>Tin</td>
<td>Chronic</td>
<td>&lt;1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7440-38-2</td>
<td>Arsenic (inorganic)</td>
<td>Acute-Chronic</td>
<td>&lt;1</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>7664-93-9</td>
<td>Sulfuric Acid (Battery Electrolyte)</td>
<td>Reactive-Oxidizer</td>
<td>10-15</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Not applicable: Inert Ingredients

Note: PEL's for individual states may differ from OSHA's PEL's. Check with local authorities for the applicable state PEL's.

OSHA - Occupational Safety and Health Administration; ACGIH - American Conference of Governmental Industrial Hygienists; NIOSH - National Institute for Occupational Safety and Health.

COMMON NAME: (Used on label) Valve Regulated Lead-acid Battery

(Trade Name & Synonyms) VRB, VRLA, SLAB, Recombinant lead acid: RG, GPL, AGM, PVX or FD Series, D8565 series

Chemical Family: Toxic and Corrosive Material Mixture

SECTION 3 -- HAZARD IDENTIFICATION

Signs and Symptoms of Exposure

1. Acute Hazards

Do not open battery. Avoid contact with internal components. Internal components include lead and absorbed electrolyte.

Electrolyte - Electrolyte is corrosive and contact may cause skin irritation and chemical burns. Electrolyte causes severe irritation and burns of eyes, nose and throat. Inhalation can cause severe burns and vomiting.

Lead - Direct skin or eye contact may cause local irritation. Inhalation or ingestion of lead dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm and joint pain.

California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm, and during charging, strong inorganic acid mists containing sulfuric acid are evolved, a chemical known to the State of California to cause cancer. Wash hands after handling.

2. Subchronic and Chronic Health Effects

Electrolyte - Repeated contact with electrolyte causes irritation and skin burns. Repeated exposure to mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat and lungs.

Lead - Prolonged exposure may cause central nervous system damage, gastrointestinal disturbances, anemia, irritability, metallic taste, insomnia, wrist-drop, kidney dysfunction and reproductive system disturbances. Pregnant women should be protected from excessive exposure to prevent lead from crossing the placental barrier and causing infant neurological disorders.

Medical Conditions Generally Aggravated by Exposure

Contact with internal components if battery is broken or opened, then persons with the following medical conditions must take precautions: pulmonary edema, bronchitis, emphysema, dental erosion and tracheobronchitis.

Routes of Entry

Inhalation - YES
Ingestion - YES
Eye Contact - YES

Chemical(s) Listed as Carcinogen or potential

Proposition 65 - YES
National Toxicology Program - YES
I.A.R.C. Monographs - YES
O.S.H.A. - NO
SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures

1. Inhalation
   Remove to fresh air and provide medical oxygen/CPR if needed. Obtain medical attention.
2. Eyes
   Immediately flush with water for at least 15 minutes, hold eyelids open. Obtain medical attention.
3. Skin
   Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and obtain medical attention if necessary.
4. Ingestion
   Do not induce vomiting. If conscious drink large amounts of water/milk. Obtain medical attention. Never give anything by mouth to an unconscious person.

SECTION 5 - FIREFIGHTING MEASURES

Flammable Limits in Air
Not Applicable

Extinguishing Media - Class ABC, CO₂, Halon
Auto-Ignition Temperature
Not Applicable

675°F (polypropylene)

Special Fire Fighting Procedures
Lead/acid batteries do not burn, or burn with difficulty. Do not use water on fires where molten metal is present. Extinguish fire with agent suitable for surrounding combustible materials. Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors generated by heat or fire are corrosive. Use NIOSH approved self-contained breathing apparatus (SCBA) and full protective equipment operated in positive-pressure mode.

Unusual Fire and Explosion Hazards
Sulfuric acid vapors are generated upon overcharge and polypropylene case failure. Use adequate ventilation. Avoid open flames/sparks/other sources of ignition near battery.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup
Avoid contact with any spilled material. Contain spill, isolate hazard area, and deny entry. Li

Environmental Precautions
Acid resistant aprons, boots and protective clothing. ANSI approved safety glasses with side shields/face shield recommended.

Personal Precautions
Lead and its compounds and sulfuric acid can pose a severe threat to the environment. Contamination of water, soil and air should be prevented.

SECTION 7 - HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage
Store away from reactive materials, open flames and sources of ignition as defined in Section 10 - Stability and Reactivity Data. Store batteries in cool, dry, well-ventilated areas. Batteries should be stored under roof for protection against adverse weather conditions. Avoid damaging to containers.

Other Precautions
GOOD PERSONAL HYGIENE AND WORK PRACTICES ARE MANDATORY. Refrain from eating, drinking or smoking in work areas. Thoroughly wash hands, face, neck and arms, before eating, drinking and smoking. Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Wash soiled clothing, work clothes and equipment before reuse.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection
None required under normal conditions. Acid/gas NIOSH approved respirator is required when the PEL is exceeded or employee experiences respiratory irritation.

Ventilation
Store and handle in dry ventilated area. Local Exhaust
When PEL is exceeded. Mechanical (General)
Not Applicable

Protective Gloves
Wear rubber or plastic acid resistant gloves.

Eye Protection
ANSI approved safety glasses with side shields/face shield recommended

Other Protective Clothing or Equipment
Safety shower and eyewash.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable
Vapor Pressure: Not Applicable
SpecificGravity: 1.250-1.320
pH: <2
Melting Point: >320°F (polypropylene)

Percent Volatile By Volume: Not Applicable
Vapor Density: 0.089 (Air = 1)
Hydrogen: 3.4 @ STP (Air = 1)
Electrolyte: Not applicable

Solubility In water: 100% soluble (electrolyte)

Reactivity in Water: Electrolyte - Water Reactive (1)

Appearance and Odor:
Battery: Co-polymer polypropylene, solid; may be contained within an outer casing of aluminum or steel. Case has metal terminals. Lead: Gray, metallic, solid, brown/grey oxide
Electrolyte: Odorless, liquid absorbed in glass mat material. No apparent odor.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Avoid overcharging and smoking, or sparks near battery surface. High temperatures-cases decompose at >320°F.

Incompatibility (Materials to Avoid): Sparks, open flames, keep battery away from strong oxidizers.

Hazardous Decomposition Products: Combustion can produce carbon dioxide and carbon monoxide.

Hazardous Polymerization: Hazardous Polymerization has not been reported.
SECTION 11 - TOXICOLOGICAL INFORMATION

GENERAL: The primary routes of exposure to lead are ingestion or inhalation of dust and fumes.

ACUTE:
INHALATION/INGESTION: Exposure to lead and its compounds may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in the legs, arms and joints. Kidney damage, as well as anemia, can occur from acute exposure.

CHRONIC:
INHALATION/INGESTION: Prolonged exposure to lead and its compounds may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and wrist drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucination, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning. Chronic over-exposure to lead has been implicated as a causative agent for the impairment of male and female reproductive capacity, but there is at present, no substantiation of the implication. Pregnant women should be protected from excessive exposure. Lead can cross the placential barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women.

SECTION 12 - ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates, and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

SECTION 13 - DISPOSAL CONSIDERATIONS

Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For information on returning batteries to Concorde Battery for recycling call 626-813-1234. For neutralized spills, place residue in acid-resistant containers with sorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.

SECTION 14 - TRANSPORT INFORMATION

All Vision AGM, CP, FM, CL series and CTA series are valve regulated lead acid (VRLA) batteries. Vision's VRLA batteries have passed vibration, pressure differential and free flowing acid tests under CFR 49 173.159(d) and meet IATA Special Provisions A48 and A67. The batteries are securely packaged, protected from short circuits and labeled "Non-Spillable." Vision's VRLA batteries are exempt from DOT Hazardous Material Regulations and IATA Dangerous Goods Regulations.

Note: The shipper has the option of shipping the batteries Hazmat regulated under UN2800. Additional labeling and paperwork would be required. See CFR 49 and IATA Dangerous Goods Regulations for more information.

U.S. DOT PROPER SHIPPING NAME: Batteries, wet, non-spillable
U.S. DOT HAZARD CLASS: 8
U.S. DOT ID NUMBER: UN2800
U.S. DOT PACKING GROUP: III
U.S. DOT LABEL: CORROSIVE

IMO PROPER SHIPPING NAME: Batteries, wet, non-spillable
IMO U.N. CLASS: 8
IMO U.N. NUMBER: UN 2800
IMO LABEL: CORROSIVE
IMO VESSEL STOWAGE: A

IATA PROPER SHIPPING NAME: Batteries, wet, non-spillable
IATA U.N. CLASS: 8
when IATA U.N. NUMBER: UN 2800
IATA LABEL: CORROSIVE
ERG Code - 8L

SECTION 15 - REGULATORY INFORMATION

U.S. HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD: LEAD - YES ARSENIC - YES SULFURIC ACID - YES

INGREDIENTS LISTED ON TSCA INVENTORY: YES

CERCLA SECTION 304 HAZARDOUS SUBSTANCES:
LEAD - YES RQ: N/A*
ARSENIC - YES RQ: 1 POUND
SULFURIC ACID - YES RQ: 1000 POUNDS

* RQ: REPORTING NOT REQUIRED WHEN DIAMETER OF THE PIECES OF SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 100 µm (micrometers).

EPCRA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE: SULFURIC ACID - YES

EPCRA SECTION 313 TOXIC RELEASE INVENTORY: LEAD - CAS NO: 7439-92-1
ARSENIC - CAS NO: 7440-38-2
SULFURIC ACID - CAS NO: 7664-93-9

SECTION 16 - OTHER INFORMATION

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, VISION BATTERY MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED 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.ALTHOUGH REASONABLE PRECAUTIONS HAVE BEEN TAKEN IN THE PREPARATION OF THE DATA CONTAINED HEREIN, IT IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION. THIS MATERIAL SAFETY DATA SHEET PROVIDES GUIDELINES FOR THE SAFE HANDLING AND USE OF THIS PRODUCT; IT DOES NOT AND CANNOT ADVISE ON ALL POSSIBLE SITUATIONS, THEREFORE, YOUR SPECIFIC USE OF THIS PRODUCT SHOULD BE EVALUATED TO DETERMINE IF ADDITIONAL PRECAUTIONS ARE REQUIRED.

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FORM MSDS REV. 01/01/2012