超威 CHILWEE

MATERIAL SAFETY DATA SHEET
VALVE REGULATED LEAD ACID BATTERY

Form No.: MSDS201801
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SECTION1: PRODUCT AND COMPANY IDENTIFICATION

Product Information:

Product name: Valve Regulated Lead Acid Battery (VRLA Battery)
Product Model: 6-EVF-100A
Product Specification: 12V 100Ah@3hr rate
Product Application: Electric Vehicles

Company Information:

Company Name: SHENZHEN CHAOWEI RENEWABLE ENERGY CO., LTD.
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SECTION2: INFORMATION ON INGREDIENTS

Ingredients Name	Content (%)	CAS No.	EC No.	Classification
Lead	60-80	7439-92-1	231-100-4	
Diluted Sulfuric Acid	5-20	7664-93-9	231-639-5	C; R35
Acrylonitrile/Butadiene/Styrene Resin (ABS)	5-10	9003-56-9	-	
AGM Fiberglass Separator	1-5	65997-17-3	266-046-0	
Epoxy Resin	0.1-1	N/A	-	

SECTION3: HAZARDS IDENTIFICATION

- **Hazards Identification:**
  The battery is valve regulated type. It is NOT restricted to IATA DGR according to special provision A67 and is NOT restricted to IMDG CODE according to special provision 238.
- **Emergency Overview:**
  The internal battery materials may cause severe irritation to eyes and skin. Causes burns.

SECTION4: FIRST-AID MEAUSRES

- **Skin Exposure:**
  If the internal battery materials of opened battery cell come into contact with the skin, immediately flush with plenty of water for at least 15 minutes. Seek immediate medical attention.
- **Eye Exposure:**
  In case of contact the electrolyte contained inside the battery with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical attention.

- **Inhalation Exposure:**
  If the potential exposure to mist or dusts occurs, remove immediately to fresh air and seek medical attention.
- **Oral Exposure:**
  If swallowed the internal materials, do not induce vomiting. Seek immediate medical attention.

SECTION5: FIRE FIGHTING MEASURES

- **Extinguishing Media:**
  Suitable: Dry chemical, Sandy soil, Carbon dioxide or appropriate foam.
- **Firefighting:**
  Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
  Specific hazards: Emit toxic fumes under fire conditions.

SECTION6: ACCIDENTAL RELEASE MEASURES

If batteries show signs of leaking, avoid skin or eyes contact with the material leaking from the battery. Use chemical resistant rubber gloves and non-flammable absorbent material for clean-up. Mix with inert material (e.g. dry sand, vermiculite) and transfer to sealed container for disposal.

SECTION7: HANDLING AND STORAGE

- **Handling:**
  Keep away from ignition sources, heat and flame. Such batteries must be packed in inner package in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse and overcharge. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. No smoking at working site. Materials to Avoid: Strong oxidant, Combustible materials and Corrosives.
- **Storage:**
  Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Materials to Avoid: Strong oxidant, Combustible materials and Corrosives.

SECTION8: EXPLOSURE CONTROL, PERSONAL PROTECTION

- **Engineering Controls:**
  Use ventilation equipment if available. Safety shower and eye bath.
- **Personal Protective Equipment:**
  Respiratory: Wear government approved air-purifying respirator if needed.
  Eye: Chemical safety glasses.
  Clothing: Wear appropriate protective clothing.
  Hand: Wear acids resistant gloves.
- **Other Protect:**
  No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9: PHYSICAL/CHEMICAL PROPERTIES

Appearance: Multi-color ABS Shell (containing electrolyte absorbed in AGM separator)
Odor: Odorless
Melting point/℃: >350℃
Solubility: Insoluble

SECTION10: STABILITY AND REACTIVITY

- **Stability:**
  Stable under normal temperatures and pressures.
- **Conditions to Avoid:**
  Avoid exposure to heat and open flame. Avoid mechanical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits.
- **Material to Avoid:**
  Strong oxides, Sulfuric acid mist, Metal Oxides.

SECTION11: TOXICOLOGICAL INFORMATION

- **Toxicity Data:**
  Not available.
- **Irritation Data:**
  The internal battery materials may cause severe irritation to eyes and skin. Causes burns.
- **Carcinogenicity**
  The international Agency on Cancer (IARC) has classifies “strong inorganic acid mists containing sulfuric acid “as a category 1 carcinogen (inhalation), a substance that is carcinogenic to humans. This classification does not apply to the sulfuric acid contained within the battery. Misuse of product, such as overcharging, may result in the generation of sulfuric acid mist at high levels.

SECTION12: ECOLOGICAL INFORMATION

Lead and its compounds can result in a threat if released into the environment.
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. Leak (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

SECTION13: DISPOSAL CONSIDERATION

- **Appropriate Method of Disposal of Substance:**
  Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. 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

The battery has passed the vibration test, pressure differential test and leakage test at 55℃ according to Recommendations on the IMO IMDG CODE. This substance is NOT subject to IMO IMDG CODE according to Special Provision 238.

IATA: Proper Shipping Name: /
UN Number: /
Hazard Class: /
Packing Group: /

IMO: Proper Shipping Name: /
UN Number: /
Hazard Class: /
Packing Group: /

SECTION15: REGULATORY INFORMATION

EU Additional Classification:
S 36/37
Safety Statements: Wear suitable protective clothing and gloves.

SECTION16: OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. 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 investigation to determine the suitability of the information for their particular purpose. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information. If necessary (such as: the ingredients change, the governments require, the new hazard affirmed, etc.), this MSDS/SDS shall be amended.