Shenzhen Anbotek Compliance Laboratory Limited

TEST REPORT

Report No.....: R011509882B

Client.....: Tianneng Battery Group Co., Ltd.

Address.....: Meishan Industrial Zone, Changxing, Zhejiang Province, China

Manufacturer.....: Tianneng Battery Group Co., Ltd.

Address.....: Meishan Industrial Zone, Changxing, Zhejiang Province, China

Written by : Fannie Zhu

Approved by : Mark Zhu

Position : Authorized signatory

Date(s) of Report : 2015-10-08 to 2015-10-10

SAFETY DATA SHEET

According to HCS-2012 APPENDIX D TO § 1910.1200 (Version: 1.0/EN)

Section 1. Identification

(a) Product identifier

Product name: Lead Acid Battery

(b) Other means of identification

Product description:

Model: 6-EVF-50, 6-EVF-60, 6-EVF-60T, 6-EVF-80, 6-EVF-100, 6-EVF-120, 6-EVF-150, 6-EVF-135, 4-EVF-150, 3-EVF-200, 3-EVF-150

Nominal Voltage: 12V

Rated Capacity: 120Ah

Weight: 41.0kg

(c) Recommended use of the chemical and restrictions on use

Recommended use: Lead Acid Battery

Restriction on use: No information available.

(d) Details of the supplier of the product

Company name(China): Tianneng Battery Group Co., Ltd.
Address: Meishan Industrial Zone, Changxing, Zhejiang Province, China
Telephone No.: 0572-6176698
Fax: 0572-6058018

Section 2. Hazard(s) identification

(a) Preparation hazards and classification

No harm at the normal use. When the battery is in extreme pressure deformation, high-temperature environment, overload, short-circuit condition, or disassemble the battery, an explosion of fire and chemical burn hazards may occur.

(b) Primary Route(s) of Exposure

These chemicals are contained in a plastic enclosure. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, eye contact and skin contact.

(c) Potential Health Effects:

ACUTE (short term): See section 8 for exposure controls In the event that this battery has been ruptured, the electrolyte solution contained within the battery would be corrosive and can cause burns.
Inhalation: A battery volatilizes no gas unless it was damaged. Damaged battery will volatilize little gas that may stimulate the respiratory tract or cause an anaphylaxis in serious condition.
Ingestion: Swallowing battery will be damaged to the respiratory tract and cause chemical burns to the stomach; inserious conditions it will cause permanent damage.
Skin: In normal condition, contact between the battery and skin will not cause any harms. Contact with a damaged battery may cause skin allergies or chemical burns.
Eye: In normal condition, contact between the battery and eyes will not cause any harms. However, the gas volatilize from a damaged battery may be harmful to eyes.
CHRONIC (long term): See Section 11 for additional toxicological data.

(d)Medical Conditions Aggravated by Exposure

No information available.

(e)Reported as carcinogen

No information available.

GHS Label elements, including precautionary statements:


GHS02

GHS05

GHS06

Signal word: Warning

Hazard statement(s):

H242:Heating may cause a fire;
H311: Toxic in contact with skin;
H314:Causes severe skin burns and eye damage;
H302:Harmful if swallowed;
H332:Harmful if inhaled;

Precautionary statements:

Prevention:

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid brething dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.

Response:

P312:Call a Poison center or doctor/physician if you feel unwell.
P302+P350-IF ON SKIN: Gently wash with plenty of soap and water
P301+P330+P331-IF SWALLOWED: rise mouth. Do NOT induce vomiting
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED:Remove person to fresh air and keep comfortable for breathing.

Disposal：

P501: Dispose of contents/container in accordance with local/national regulations.

Hazards not otherwise classified (HNOC)

Not Applicable

Section 3. Composition/Information on Ingredients

(a) Mixtures information

Chemical Name	Concentration%	CAS No.
Lead (Pb, PbO2, PbSO4)	70	7439-92-1
Sulfuric Acid	20	7664-93-9
Fiberglass Separator	5	/
ABS or PP	5	9003-56-9/ 9003-07-0

Section 4. First-Aid Measures

(a) Description of first aid measures

Inhalation: Sulfuric Acid: Remove to fresh air immediately. If breathing is difficult, give oxygen.
Lead: Remove from exposure, gargle, wash nose and lips; consult physician.
Skin contact: Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes.
Lead: Wash immediately with soap and water.
Eye contact: Sulfuric Acid and Lead: Flush immediately with large amounts of water for a least 15 minutes; consult physician.
Ingestion: Sulfuric Acid: Give large quantities of water; do not induce vomiting; consult physician.
Lead: Consult physician immediately.

(b) Most important symptoms/effects, acute and delayed

Contact with internal components may cause allergic skin sensitization (rash) and irritate eyes, skin, nose, throat,
respiratory system. Lead and Lead compounds are considered to be possible human carcinogen(s).

(c) Immediate medical attention and special treatment

No information available.

Section 5. Fire-Fighting Measures

(a) Extinguishing media

Suitable extinguishing media: Use foam, dry powder or dry sand, CO_2 as appropriate.
Unsuitable extinguishing media: No information available.

(b) Special hazards arising from the chemical

Under fire conditions, batteries may burst and release hazardous decomposition products when exposed to a fire situation. This could result in the release of flammable or corrosive materials. Hazardous combustion products: CO, CO_2, Metal oxides, Irritating fumes.

(c) Special protective equipment and precautions for fire-fighters

Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filtermask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.

Section 6. Accidental Release Measures

(a) Personal precautions, protective equipment and emergency procedures

Stop release, if possible. Avoid contact with any spilled material. Contain spill, isolate hazard area, and deny entry. Limit site access to emergency responders.Neutralize with sodium bicarbonate, soda ash, lime or other neutralizing agent. Place battery in Suitable container for disposal. Dispose of contaminated material in accordance with applicable local, state and federal regulations. Sodium bicarbonate, soda ash, sand, lime or other neutralizing agent should be kept on-site for spill remediation. Acid resistant aprons, boots and protective clothing. ANSI approved safety glasses with side shields/face shield recommended. Ventilate enclosed areas.

(b) Environmental 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.

(c) Methods and materials for containment and cleaning up

If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

Section 7. Handling and Storage

(a) Precautions for safe handling

Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.

(b) Conditions for safe storage, including any incompatibilities

If the Lead Acid Battery is subject to storage for such a long term as more than 3 months, it is recommended torecharge the Lead Acid Battery periodically. Operating temperature: Charge:0℃~45℃. Discharge: -10℃~50℃. And recommended at -10℃~45℃ for 1 month storage, at -10~35℃ for 3 months storage. The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more. The voltage for a long time storage shall be 10.5V~14.4V range. Do not storage Lead Acid Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects. Keep out of reach of children.

Section 8. Exposure Controls/Personal Protection

(a)Engineering Controls

Store and handle in well-ventilated area. If mechanical ventilation is used, Components must be acid-resistant.

(b) Personal Protective Equipment

Respiratory Protection:
None required under normal conditions.When concentrations of sulfuric acid mist are known to exceed the PEL, use NIOSH or MSHA-approved respiratory protection.
Hand protection: Rubber or plastic acid-resistant gloves with elbow-length gauntlet.
Eye Protection: Chemical goggles or face shield.
Work Practices: Handle batteries cautiously to avoid spills. Make certain vent caps are on securely. Avoid contact with internal components.Wear protective clothing when filling or handling batteries.

(c) Other Protective Equipment

Acid-resistant apron. Under severe exposure emergency conditions, wear acid-resistant clothing and boots.

(d) Hygiene Measures

Do not eat, drink, or smoke in work area. Maintain good housekeeping.

Section 9. Physical and Chemical Properties

(a)Appearance	Black Solid
(b)Odor	Monotony
(c)Odor threshold	Not available.
(d)pH	pH<2
(e)Melting point/freezing point	Not available.
(f)Initial boiling point and boiling range	Not available.
(g)Flash poin	Not applicable.
(h)Evaporation rate	Not applicable.
(i)Flammability	Non flammable.
(j)Upper/lower flammability or explosive limits	Not available.
(k)Vapor pressure	10 mm Hg
(l)Vapor density	Greater than 1 (AIR = 1)
(m)Relative density	Not available.
(n)Solubility(ies)	Insoluble in water.
(o)Partition coefficient: n-octanol/water	Not available.
(p)Auto-ignition temperature	130℃
(q)Decomposition temperature	Not available.
(r)Viscosity	Not available.

Section 10. Stability and Reactivity

(a) Reactivity

Stable under recommended storage and handling conditions.

(b) Chemical stability

Stable under normal conditions.

(c) Possibility of hazardous reactions

When heated above 150℃ the risk of rupture occurs. Due to special safety construction, rupture implies cont release of pressure without ignition.

(d) Conditions to avoid

Prolonged overcharge; sources of ignition

(e) Incompatible materials

Sulfuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Lead Compounds:Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.

(f) Hazardous decomposition products

Sulfuric Acid: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.

Lead Compounds: High temperatures likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

Section 11. Toxicological Information

(a) Information on the likely routes of exposure

Inhalation: Inhalation of a large number of vapors or fumes released due to heat may cause respiratory.

Ingestion: Ingestion of battery contents may cause mouth, throat and intestinal burns and damage.

Skin contact: Contact with battery electrolyte may cause burns and skin irritation.

Eye contact: Contact with battery electrolyte may cause burns. Eye damage is possible.

Under normal conditions (during charge and discharge) release of ingredients does not occur. If accidental release occurs see information in section 2, and 4. Swallowing of a battery can be harmful. Call the local Poison Control Centre for advice and follow-up.

(b) Information on toxicological characteristics

Acute toxicity: No data available.

Skin corrosion/irritation: The liquid in the battery irritates.

Serious eye damage/irritation: The liquid in the battery irritates.

Respiratory sensitization: The liquid in the battery may cause sensitization to some person.

skin sensitization: The liquid in the battery may cause sensitization to some person.

Carcinogenicity: Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

Germ Cell Mutagenicity: No data available.

Reproductive Toxicity: No data available.

STOT-Single Exposure: No data available.

STOT-Repeated Exposure: No data available.

Aspiration Hazard: No data available.

Section 12. Ecological Information

(a) Ecotoxicity

Water hazard class 1(Self-assessment): slightly hazardous for water.

(b) Persistence and Degradability

No information available.

(c) Bioaccumulative potential

No information available.

(d) Mobility in soil

No information available.

(e) Other adverse effects

No information available.

Section 13. Disposal Considerations

(a) Safe handling and methods of disposal

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements. Product disposal recommendation: Observe local, state and federal laws and regulations. Packaging disposal recommendation: Be aware discarded batteries may cause fire, tape the battery terminals to insulate them. Don't disassembly the battery. Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local, state and federal laws and regulations.The potential effects on the environment and human health of the substances used in batteries and accumulators;
the desirability of not disposing of waste batteries and accumulators as unsorted municipal waste and of participating in their separate collection so as to facilitate treatment and recycling.

Section 14. Transport Information

IMDG:

Batteries that are classified as Nonspillable have been tested and meet the nonspillable criteria listed in Special Provision 238. Non-spillable batteries must be packed according to I MDG Packing Instruction P003.These batteries are excepted from all IMDG code provided th at the batteries' terminals are protected against short circuits per PP16.

IATA:

Batteries that are classified as Nonspillable have been tested and meet the nonspillable criteri

a listed in IATA Packing Instruction 806 and Special Provision A67.Nonspillable batteries m ust be packed according to IATA Packing Instruction 806.These batteries are excepted from a ll IATA regulations provided that the batteries' terminals are protected against short circuits.T he Battery according to the 2015 IATA Dangerous Goods regulations 56th Edition may be transported and applicable U.S. DOT regulations for the safe transport of the Battery.

(a) UN number

2800

(b) UN Proper shipping name

Batteries , VRLA Gel type, acid is adsorbed into the separator,electric storage

(c) Transport hazard class(es)

8

(d) Packing Instruction (if applicable)

No information available.

(e) Marine pollutant (Yes/No)

No

(f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

No information available.

(g) Special precautions

No information available.

Section 15. Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

_____ **Hazardous** _____**V**_____ **Non-hazardous**

Section 16. Other Information

(a) Preparation and revision information

Date of previous revision: Not applicable. Date of this revision: 2015-10-09

Revision summary: The first New SDS

(b) Abbreviations and acronyms

TSCA: Toxic Substances Control Act, The American chemical inventory.
DSL: Domestic Substances List
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Japanese Existing and New Chemical Substances
ECL: Existing Chemicals List, the Korean chemical inventory
IECSC: Inventory of existing chemical substances in China.

(c) Disclaimer

Because all of our batteries are defined as "articles", they are exempted from the requirements of the Hazard Communication Standard. The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.

---------- End of the SDS ----------