



# CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Product name: Valve Regulated Lead Acid/ Absorbed Glass Mat Battery (VRLA-AGM)

Issue date: 23-September-2026

Revision date: -

Version #: 01

## SECTION 1 Chemical product and company identification

|                          |                                                                       |
|--------------------------|-----------------------------------------------------------------------|
| Chinese name of chemical | Valve Regulated Lead Acid/ Absorbed Glass Mat Battery (VRLA-AGM) - 电池 |
| English name of chemical | Valve Regulated Lead Acid/ Absorbed Glass Mat Battery (VRLA-AGM)      |
| Synonyms                 | VRLA/AGM                                                              |
| Product code             | Pacer, Pacer/Black Box VRLA/AGM                                       |
| Manufacturer             | Pacer Co., Ltd.                                                       |
| Address                  | No.55, Liandu Road, Fengxian District,<br>Shanghai China 201419       |
| Website                  | www.pacerbattery.com                                                  |
| Telephone                | +86-2137 111222                                                       |
| Emergency telephone      | CHEMTREC: 400-120-4937 (China 24-hours)                               |

### Recommended use and Limitations on use

|                    |                                      |
|--------------------|--------------------------------------|
| Recommended use    | Battery.                             |
| Limitations on use | Uses other than the recommended use. |

Issue date 23-September-2026

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Supersedes date -

## SECTION 2 Hazards identification

|                    |                                                                                                                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency overview | Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful. |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### GHS hazard categories

Not classified.

### Label elements

Pictograms None.

Signal word None.

Hazard statement The product is an article and therefore the classification requirements do not apply.

### Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Safety storage Store as indicated in Section 7 of the SDS document.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Physical and chemical hazards Exposure to contents of an open or damaged battery: May be corrosive to metals.

Health hazards Exposure to contents of an open or damaged battery: Causes severe skin burns. Causes serious eye damage. Causes digestive tract burns. May cause irritation to the respiratory system. Suspected of causing cancer. May damage fertility or the unborn child. May cause harm to breast-fed children. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

Environmental hazards Exposure to contents of an open or damaged battery: Very toxic to aquatic life with long lasting effects.

**Supplemental information**

Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. Batteries may get hot, explode or ignite and cause serious injury if mishandled, crushed or abused. When exposed to heat, when short circuited, or when exposed to incompatible materials, the battery may rupture and release hazardous substances. These substances can explode and burn. Burning batteries may emit toxic fumes.

**SECTION 3 Composition/information on ingredients**

| Substance/mixture                    | Mixture           |            |
|--------------------------------------|-------------------|------------|
| Chemical name                        | Concentration (%) | CAS Number |
| 铅<br>Lead                            | 69                | 7439-92-1  |
| 硫酸<br>Sulfuric acid                  | 22.5              | 7664-93-9  |
| 聚丙烯<br>Polypropylene                 | 5.6               | 9003-07-0  |
| 玻璃氧化物, 化学品<br>Glass oxide, chemicals | 2.5               | 65997-17-3 |
| 锡<br>Tin                             | 0.4               | 7440-31-5  |

**Composition comments**

The ingredients listed in section 3 are contained in a sealed container. Risk of exposure only occurs if battery is mechanically, thermally or electrically abused.  
All concentrations are in percent by weight.

**SECTION 4 First aid measures****Inhalation**

Exposure to contents of an open or damaged battery: Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention immediately.

**Skin contact**

Exposure to contents of an open or damaged battery: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact**

Exposure to contents of an open or damaged battery: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**Ingestion**

Exposure to contents of an open or damaged battery: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms and health effects**

Under normal conditions of intended use, this product is not expected to be a health risk. Exposure to contents of an open or damaged battery: Narcosis. Behavioral changes. Decrease in motor functions. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Prolonged exposure may cause chronic effects.

**Personal protection for first-aid responders**

If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

**Notes to physician**

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**SECTION 5 Fire-fighting measures****Extinguishing media**

Foam. Special powder against metal fires. Dry sand.

**Extinguishing media to avoid**

Leak from a damaged or opened battery: Do not use water unless flooding amounts are available. Do not use carbon dioxide directly on cells.

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific hazards</b>                 | In the event of fire and/or explosion do not breathe fumes. During fire, hazardous combustion products are released that may include: Carbon oxides. Sulfur oxides. Fumes of metal oxides. Hydrogen and oxygen gases are produced in the cells during normal battery operation (hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps. To avoid the chance of fire or explosion, keep sparks and other sources of ignition away from battery. |
| <b>Special fire fighting procedures</b> | Fight fire from protected location or safe distance. Keep upwind. Move containers from fire area if you can do so without risk. Avoid discharge into drains, water courses or onto the ground.                                                                                                                                                                                                                                                                                                 |
| <b>Protection of fire-fighters</b>      | Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.                                                                                                                                                                                                                                                                                                                                   |
| <b>General fire hazards</b>             | Under normal use, the battery does not exhibit flammable properties. In the event that the battery is abused and disassembly of the battery occurs resulting in exposure of internal components, the exposed solution may be flammable and/or corrosive. Exposure to excessive heat may lead to venting or rupture of the sealed battery, exposing the internal components which may be corrosive and/or flammable. Vented gas would be flammable when in sufficient concentration.            |

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Wear appropriate protective equipment and clothing during clean-up.

**For emergency responders** Keep unnecessary personnel away. In the event of damage resulting in a leak or exposed materials, avoid contact with contents of an open or damaged cell or battery. Wear protective clothing as described in Section 8 of this safety data sheet.

**Environmental precautions** Avoid allowing material from exposed battery to contaminate soil, sanitary sewers, or waterways.

**Clean-up methods and materials and containment measures** Leak from a damaged or opened battery: Contain spillage with sand or earth. Place in a designated labeled waste container, dispose as hazardous waste. For waste disposal, see Section 13 of the SDS.

**Prevention of secondary hazards** Clean up in accordance with all applicable regulations.

## SECTION 7 Handling and storage

**Handling** Do not allow conductive material to touch the battery terminals. A dangerous short circuit may occur and cause battery failure and fire. Protect against physical damage. Do not open, disassemble, crush or burn battery. Do not expose battery to extreme heat or fire. Elevated temperatures can result in reduced battery service life. Wash hands thoroughly after handling. Do not release into the environment. Observe good industrial hygiene practices.

**Storage** Store locked up. Keep out of reach of children. Prevent short circuits. Store in original packaging. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at room temperature. Avoid contact with water and moisture. Protect from heat and direct sunlight. Inspect periodically for damage or leaks. Store away from incompatible materials (See Section 10).

## SECTION 8 Exposure controls/personal protection

### Exposure limits

| China                                   |         |                        |             |  |
|-----------------------------------------|---------|------------------------|-------------|--|
| Components                              | Type    | Value                  | Form        |  |
| Glass oxide, chemicals (CAS 65997-17-3) | PC-TWA  | 8 mg/m <sup>3</sup>    | Total dust. |  |
| Lead (CAS 7439-92-1)                    | PC-TWA  | 0.05 mg/m <sup>3</sup> | Dust.       |  |
|                                         |         | 0.03 mg/m <sup>3</sup> | Fume.       |  |
| Polypropylene (CAS 9003-07-0)           | PC-TWA  | 5 mg/m <sup>3</sup>    | Total dust. |  |
| Sulfuric acid (CAS 7664-93-9)           | PC-STEL | 2 mg/m <sup>3</sup>    |             |  |
|                                         | PC-TWA  | 1 mg/m <sup>3</sup>    |             |  |

### Biological limit values

#### China. Biological limit values for occupational exposure (WS/T 110 to 115, 239 to 243, and 264 to 267)

| Components           | Value    | Determinant | Specimen | Sampling Time |
|----------------------|----------|-------------|----------|---------------|
| Lead (CAS 7439-92-1) | 400 µg/l | Lead        | Blood    | *             |
|                      | 2 µmol/l | Lead        | Blood    | *             |

\* - For sampling details, please see the source document.

**ACGIH Biological Exposure Indices (BEI)**

| Components           | Value    | Determinant | Specimen | Sampling Time |
|----------------------|----------|-------------|----------|---------------|
| Lead (CAS 7439-92-1) | 200 µg/l | Lead        | Blood    | *             |

\* - For sampling details, please see the source document.

|                                      |                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure guidelines</b>           | Airborne exposures to hazardous substances are not expected when product is used for its intended purpose.                                                                                                                                                                                                                                        |
| <b>Monitoring methods</b>            | Follow standard monitoring procedures.                                                                                                                                                                                                                                                                                                            |
| <b>Engineering measures</b>          | Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product. |
| <b>Personal protective equipment</b> |                                                                                                                                                                                                                                                                                                                                                   |
| <b>Respiratory protection</b>        | None under normal conditions. Leak from a damaged or opened battery: In case of insufficient ventilation, wear suitable respiratory equipment.                                                                                                                                                                                                    |
| <b>Hand protection</b>               | Leak from a damaged or opened battery: Wear chemical-resistant, impervious gloves.<br><br>Other suitable gloves can be recommended by the glove supplier.                                                                                                                                                                                         |
| <b>Eye protection</b>                | Leak from a damaged or opened battery: Use approved safety goggles or face shield.                                                                                                                                                                                                                                                                |
| <b>Skin and body protection</b>      | None under normal conditions. Leak from a damaged or opened battery: Wear suitable coveralls to prevent exposure to the skin.                                                                                                                                                                                                                     |
| <b>Hygiene measures</b>              | Do not store food, drink and tobacco near the product. Wash hands after handling. Practice good housekeeping. Observe good industrial hygiene practices.                                                                                                                                                                                          |

**SECTION 9 Physical and chemical properties****Appearance**

|                                                                |                                                                       |
|----------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>Physical state</b>                                          | Solid.                                                                |
| <b>Form</b>                                                    | Article.                                                              |
| <b>Color</b>                                                   | 0.5                                                                   |
| <b>Odor</b>                                                    | Acidic.                                                               |
| <b>Odor threshold</b>                                          | Not applicable unless individual components exposed.                  |
| <b>pH</b>                                                      | Not applicable unless individual components exposed.                  |
| <b>Melting point/freezing point</b>                            | Not applicable unless individual components exposed.                  |
| <b>Boiling point, initial boiling point, and boiling range</b> | Not applicable unless individual components exposed.                  |
| <b>Flash point</b>                                             | Not applicable unless individual components exposed.                  |
| <b>Explosive limit - lower (%)</b>                             | Not applicable unless individual components exposed.                  |
| <b>Explosive limit - upper (%)</b>                             | Not applicable unless individual components exposed.                  |
| <b>Vapor pressure</b>                                          | Not applicable unless individual components exposed.                  |
| <b>Vapor density</b>                                           | Not applicable unless individual components exposed.                  |
| <b>Relative density</b>                                        | Not applicable unless individual components exposed.                  |
| <b>Density</b>                                                 | Not applicable unless individual components exposed.                  |
| <b>Solubility(ies)</b>                                         |                                                                       |
| <b>Solubility (water)</b>                                      | Not applicable unless individual components exposed.                  |
| <b>Partition coefficient (n-octanol/water)</b>                 | Not applicable unless individual components exposed.                  |
| <b>Auto-ignition temperature</b>                               | Not applicable unless individual components exposed.                  |
| <b>Decomposition temperature</b>                               | Not applicable unless individual components exposed.                  |
| <b>Evaporation rate</b>                                        | Not applicable unless individual components exposed.                  |
| <b>Flammability (solid, gas)</b>                               | Contains one or more components that will burn if involved in a fire. |
| <b>Other data</b>                                              |                                                                       |
| <b>Explosive properties</b>                                    | Not explosive.                                                        |
| <b>Oxidizing properties</b>                                    | Not oxidizing.                                                        |
| <b>Viscosity</b>                                               | Not applicable unless individual components exposed.                  |

## SECTION 10 Stability and reactivity

|                                           |                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | Exposure to contents of an open or damaged battery: May be corrosive to metals. Reacts with water with release of heat.                                                                                                                                                                                              |
| <b>Stability</b>                          | Product is stable under normal conditions.                                                                                                                                                                                                                                                                           |
| <b>Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use. Exposure to contents of an open or damaged battery: Contact with metals may evolve flammable hydrogen gas.                                                                                                                                               |
| <b>Conditions to avoid</b>                | Heat, sparks, flames, elevated temperatures. Protect against direct sunlight. Water, moisture. Shocks and physical damage. Do not open, disassemble, crush or burn battery. Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire. |
| <b>Incompatible materials</b>             | Strong oxidizing agents. Strong reducing agents. Combustibles. Organic material. Metals. Water. Bases. Halides. Halogenated compounds. Potassium nitrate. Permanganates. Peroxides. Bromine azide.                                                                                                                   |
| <b>Hazardous decomposition products</b>   | Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Sulfur trioxide. Carbon oxides. Sulfuric acid mist. Sulfur dioxide. Hydrogen sulfide. Arsine gas. Fumes of metal oxides.                                                                                                     |

## SECTION 11 Toxicological information

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Acute toxicity                                                        | Not expected to be acutely toxic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
| Components                                                            | Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Test Results      |
| Glass oxide, chemicals (CAS 65997-17-3)                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Acute                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Oral                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| LD50                                                                  | Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2000 - 5000 mg/kg |
| Sulfuric acid (CAS 7664-93-9)                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Acute                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Oral                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| LD50                                                                  | Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2140 mg/kg        |
| Routes of exposure                                                    | Skin contact. Eye contact. Inhalation. Ingestion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
| Symptoms                                                              | Under normal conditions of intended use, this product is not expected to be a health risk. Exposure to contents of an open or damaged battery: Narcosis. Behavioral changes. Decrease in motor functions. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Prolonged exposure may cause chronic effects. |                   |
| Skin corrosion/irritation                                             | Exposure to contents of an open or damaged battery: Causes skin burns.                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |
| Serious eye damage/eye irritation                                     | Exposure to contents of an open or damaged battery: Causes serious eye damage.                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |
| Respiratory or skin sensitization                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Respiratory sensitization                                             | Not classified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Skin sensitizer                                                       | Not classified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Germ cell mutagenicity                                                | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.                                                                                                                                                                                                                                                                                                                                                                                                    |                   |
| Carcinogenicity                                                       | Exposure to contents of an open or damaged battery: Suspected of causing cancer.                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |
| China OELs for hazardous agents in the workplace: Carcinogen Category |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Lead, dust, as Pb (CAS 7439-92-1)                                     | Possible human carcinogen.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
| Sulfuric acid and sulfur trioxide (CAS 7664-93-9)                     | Carcinogenic to humans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |
| IARC Monographs. Overall Evaluation of Carcinogenicity                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |
| Lead (CAS 7439-92-1)                                                  | 2B Possibly carcinogenic to humans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |
| Polypropylene (CAS 9003-07-0)                                         | 3 Not classifiable as to carcinogenicity to humans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |
| Toxic to reproduction                                                 | Exposure to contents of an open or damaged battery: May damage fertility or the unborn child. May cause harm to breastfed babies.                                                                                                                                                                                                                                                                                                                                                                                   |                   |
| Specific target organ toxicity following single exposure              | Exposure to contents of an open or damaged battery: May cause respiratory irritation.                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |

|                                                                   |                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific target organ toxicity following repeated exposure</b> | Exposure to contents of an open or damaged battery: Causes damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure.                                                                                                                                                                                        |
| <b>Aspiration hazard</b>                                          | Not an aspiration hazard.                                                                                                                                                                                                                                                                                                                           |
| <b>Chronic effects</b>                                            | Exposure to contents of an open or damaged battery: Causes damage to organs through prolonged or repeated exposure. Lead may produce maternal toxicity, toxicity to the fetus, and adverse effects to blood, bone marrow, central/peripheral nervous systems, kidney, liver, and reproductive system. Prolonged exposure may cause chronic effects. |
| <b>Other information</b>                                          | Exposure to hazardous ingredients is not anticipated under normal conditions of use.                                                                                                                                                                                                                                                                |

## SECTION 12 Ecological information

### Ecotoxicological data

| Components                                  |      | Species                                                                                                                                                                                                                      |                                       | Test Results |
|---------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------|
| Glass oxide, chemicals (CAS 65997-17-3)     |      |                                                                                                                                                                                                                              |                                       |              |
| Aquatic                                     |      |                                                                                                                                                                                                                              |                                       |              |
| Algae                                       | EC50 | Algae                                                                                                                                                                                                                        | 1000 mg/l, 72 hours                   |              |
|                                             |      |                                                                                                                                                                                                                              | > 0.0217 - < 0.3229 mg/l, 48 hours    |              |
|                                             | LOEC | Algae                                                                                                                                                                                                                        | > 0.0443 - < 0.2981 mg/l, 96 hours    |              |
|                                             | NOEC | Algae                                                                                                                                                                                                                        | 1000 mg/l, 72 hours                   |              |
|                                             |      |                                                                                                                                                                                                                              | > 0.0227 - < 0.1923 mg/kg/D, 96 hours |              |
| Acute                                       |      |                                                                                                                                                                                                                              |                                       |              |
| Crustacea                                   | EC50 | Aquatic Invertebrates                                                                                                                                                                                                        | 1000 mg/l, 72 hours                   |              |
|                                             | LC50 | Aquatic Invertebrates                                                                                                                                                                                                        | 0.5909 mg/l, 96 hours                 |              |
|                                             |      |                                                                                                                                                                                                                              | > 0.026 - < 3.1158 mg/l, 48 hours     |              |
| Fish                                        | LC50 | Fish                                                                                                                                                                                                                         | 10000 mg/l, 96 hours                  |              |
| Lead (CAS 7439-92-1)                        |      |                                                                                                                                                                                                                              |                                       |              |
|                                             | LC50 | Rainbow trout, donaldson trout (Oncorhynhus mykiss)                                                                                                                                                                          | 1.17 mg/l, 96 Hours                   |              |
| Sulfuric acid (CAS 7664-93-9)               |      |                                                                                                                                                                                                                              |                                       |              |
| Aquatic                                     |      |                                                                                                                                                                                                                              |                                       |              |
| Acute                                       |      |                                                                                                                                                                                                                              |                                       |              |
| Crustacea                                   | EC50 | Daphnia magna                                                                                                                                                                                                                | 29 mg/l, 24 Hours                     |              |
| Fish                                        | LC50 | Lepomis macrochirus                                                                                                                                                                                                          | > 16 - < 28 mg/l, 96 Hours            |              |
| Chronic                                     |      |                                                                                                                                                                                                                              |                                       |              |
| Crustacea                                   | NOEC | Invertebrates (Invertebrates)                                                                                                                                                                                                | 0.15 mg/l                             |              |
| Fish                                        | NOEC | Brook trout (Salvelinus fontinalis)                                                                                                                                                                                          | 0.13 mg/l                             |              |
| Ecotoxicity                                 |      | No ecological impacts expected under normal use conditions.<br>The hazards listed below are only anticipated when the integrity of a battery casing is compromised:<br>Very toxic to aquatic life with long lasting effects. |                                       |              |
| Persistence and degradability               |      | The product contains inorganic compounds which are not biodegradable.                                                                                                                                                        |                                       |              |
| Bioaccumulation                             |      | The product contains potentially bioaccumulating substances.                                                                                                                                                                 |                                       |              |
| Bioaccumulative potential                   |      |                                                                                                                                                                                                                              |                                       |              |
| Octanol/water partition coefficient log Kow |      |                                                                                                                                                                                                                              |                                       |              |
| Sulfuric acid (CAS 7664-93-9)               |      | -2.2                                                                                                                                                                                                                         |                                       |              |
| Mobility in soil                            |      | The product is not mobile in soil. Some components from a leaking battery may be mobile.                                                                                                                                     |                                       |              |
| Other hazardous effects                     |      | No data available for this product.                                                                                                                                                                                          |                                       |              |

## SECTION 13 Disposal considerations

|                               |                                                                                                                                                                                                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Residual waste</b>         | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.                        |
| <b>Contaminated packaging</b> | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

**Local disposal regulations**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 14 Transport information****CNDG**

Not regulated as dangerous goods.

**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

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

Not applicable.

**General information**

VRLA/AGM Batteries when transported by air, land, or sea are identified as Battery, Electric Storage, wet, non-spillable, not regulated. The battery must be identified as above on the Bill of Lading and properly packaged with terminals protected from short circuits.

DOT: Not regulated as a hazardous material when meeting the requirements of 49 CFR 173.159a.

IATA/ICAO: Not restricted as dangerous goods when meeting the requirements of Special Provision A67.

IMDG: Not subject to the provisions of the IMDG Code when meeting the requirements of Special Provision 238.

Marking: NONSPILLABLE, as applicable.

**SECTION 15 Regulatory information****Law of the People's Republic of China on Prevention and Control of Occupational Diseases****Classification of occupational disease hazards**

Glass oxide, chemicals (CAS 65997-17-3)

Lead (CAS 7439-92-1)

Polypropylene (CAS 9003-07-0)

Sulfuric acid (CAS 7664-93-9)

Tin (CAS 7440-31-5)

**Regulations on the Control over Safety of Dangerous Chemicals****Catalog of Hazardous Chemicals**

Sulfuric acid (CAS 7664-93-9)

**Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used****Directory of Highly Toxic Substances**

Lead (CAS 7439-92-1)

**Provision on the Environmental Administration of New Chemical Substances****China Inventory of Existing Chemical Substances****Country(s) or region**

China

**Inventory name**

Inventory of Existing Chemical Substances in China (IECSC)

**On inventory (yes/no)\***

Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**Other regulations**

This safety data sheet conforms to the following laws, regulations and standards:

Measures for the Safe Use of Chemicals in Workplaces

General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009 )

Regulations on Labor Protection in Workplaces Where Toxic Products Are Used

Packing Symbol of Dangerous Goods(GB190-2009)

Regulations on the Control over Safety of Dangerous Chemicals

Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)

Packing - Pictorial Marking for Handling of Goods (GB/T191-2008)

**China. National Catalogue of Hazardous Wastes**

Lead (CAS 7439-92-1)

**International regulations****Stockholm Convention**

Not listed.

**Rotterdam Convention**

Not listed.

**Montreal Protocol**

Not listed.

**Kyoto Protocol**

Not listed.

**Basel Convention**

Glass oxide, chemicals (CAS 65997-17-3)

**SECTION 16 Other information****References**

EPA: AQUIRE database

GB6944-2012: Classification and Code of Dangerous Goods.

GB12268-2012: List of Dangerous Goods.

IARC Monographs. Overall Evaluation of Carcinogenicity

NLM: Hazardous Substances Data Base

**Disclaimer**

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