



# MATERIAL SAFETY DATA SHEET VALVE REGULATED LEAD ACID BATTERY “BATTERY NON-SPILLABLE 49 CFR 173.259(D)”

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Trade Name:** Deep Cycle AGM Range Sealed Valve Regulated Non Spillable Battery

**Manufacturer's Name:** LUMINOR (EverExceed Industrial Company Limited).

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## SECTION 2: INFORMATION ON INGREDIENTS

Hazardous Components Specific Chemical Identity (Common Name (s))	OSHA PEL	ACGIH TLV	Range Percent By Weight	Average
Lead, CAS #7439921	0.05mg/m <sup>3</sup>	0.05mg/m <sup>3</sup>	60.75%	67%
Sulfuric Acid, CAS #7664939	1.00mg/m <sup>3</sup>	1.00mg/m <sup>3</sup>	8-12%	10%
Antimony, CAS #7440360	0.50mg/m <sup>3</sup>	0.50mg/m <sup>3</sup>	0-0.1%	<0.1%
Arsenic, CAS #7440382	0.01mg/m <sup>3</sup>	0.01mg/m <sup>3</sup>	0.01%	<0.1%
Polypropylene, CAS#9003070	N/A	N/A	2-10%	4%
Calcium, CAS#7440702	1.0mg/m <sup>3</sup>	1.0mg/m <sup>3</sup>	0-0.1%	<0.1%
Tin CAS #7440315	2.0mg/m <sup>3</sup>	2.0mg/m <sup>3</sup>	0-0.1%	<0.1%

## SECTION 3: HAZARDS IDENTIFICATION

### Appearance and Odor:

Acid is a clear to cloudy liquid. Lead is metallic gray in color. Formed lead dioxide is a dark brown in color with a slight acidic odor.

### Routes of entry:

Sulfuric Acid: Inhalation, skin, ingestion. Lead: Inhalation and Ingestion. Ingestion of lead occurs by hand to mouth contamination. After handling lead or its compounds, hands must be washed prior to eating or drinking. Metallic lead cannot be absorbed through the skin.

### Health Hazards (Acute & Chronic)

*Acute:* Sulfuric acid exposure may cause irritation of the skin, corneal damage of the eyes, irritation of the

mucous membranes and upper respiratory system, including the lungs. Acute lead exposure may cause GI upset, of appetite, diarrhea, constipation, fatigue, joint pain, and difficulty sleeping.

*Chronic:* Exposure to lead may cause anemia, kidney damage and damage to the central nervous and reproductive systems. Lead exposure may also affect developing fetuses in pregnant women. Chronic exposure to sulfuric acid may cause scarring of skin and mucous membranes, bronchitis, contact dermatitis, and erosion of tooth enamel.

## SECTION 4: FIRST AID MEASURES

### **Skin Exposure:**

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

## SECTION 5: FIREFIGHTING MEASURES

### **Extinguishing Media:**

*Suitable:* Water spray, 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.

## SECTION 6: 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 materials for clean up. Mix with inert material (e.g. dry sand, vermiculite) and transfer to sealed container for disposal.

## SECTION 7: HANDLING AND STORAGE

### Handling:

Keep away from ignition source, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively 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 within the battery assembly. In case of a battery unintentionally be crushed, acid resistant gloves 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, 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, Corrosives.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Controls:

Use ventilation equipment if available. Safety shower and eye bath. Personal Protective Equipment:

**Respiratory:** Wear government approved respirator.

**Eye:** Chemical safety glasses.

**Clothing:** Wear appropriate protective clothing.

**Hand:** Wear acid resistant gloves.

**Other Protect:** No smoking, drinking and eating at working site. Wash thoroughly after handling.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Retangle plastic cement shell (containing electrolyte)

**Odor:** Odorless

**MP/MP Range:** >300°C

**Solubility:** Partial soluble in water pH:1~2

## SECTION 10: STABILITY AND REACTIVITY



**Stability:** Stable under normal temperatures and pressures

**Material to Avoid:** Strong oxidant, Corrosives.

**Conditions to Avoid:** Avoid exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuit. Prevent movement which could lead to short circuits.

**Hazardous Polymerization:** Will not occur.

**Hazardous Decomposition Products:** Sulfur oxides, Sulfuric acid mist, Metal oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Toxicity Data:** Not available.

**Irritation Data:** The internal battery materials may cause severe irritation to eye and skin. Causes burns.

**Carcinogenicity:** The international Agency on Cancer(IARC) has classified “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 the product, such as overcharging, may result in the generation of sulfuric acid mist at high levels.

## SECTION 12: 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 particle 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.

## SECTION 13: DISPOSAL CONSIDERATIONS

**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



We hereby certify that EverExceed all series of Maintenance Free Rechargeable Sealed Lead Acid batteries conform to the UN2800 classification as “ Batteries, Non- Spillable, and electric storage” as a result of passing the Vibration and Pressure Differential Test described in DOT [49 CFR 173.159(d) and IATA/ICAO [Special Provision A67].

EverExceed Battery having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by DOT, and IATA/ICAO, and therefore are unrestricted for transportation by any means.

## **SECTION 15: REGULATORY INFORMATION**

**EU Additional Classification:** S 36/37

*Safety Statements:* Wear suitable protective clothing and gloves.

## **SECTION 16 - OTHER INFORMATION**

The MSDS is prepared in accordance with ISO 11014-1:2009, issue date: 2015/07/28

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