

Section I. Chemical Product and Company Identification

Product Identity: Sealed Lead Acid Battery
Trade Name: Elk Products Sealed Lead Acid Battery Series

Distributor:

Elk Products, Inc.
3266 Highway 70 West
Hildebran, NC 28637

Section II. Hazardous Ingredients / Identity Information

Component	Common Name	Chemical Name	Approximate % By wt. or vol.	OSHA PEL	ACGIH TLV	CAS#
Lead	(- Electrode and Grid)	Pb	50 wt%	0.05 mg/m ³	0.15 mg/m ³	7439-92-1
Lead Oxide	(+ Electrode)	PbO ₂	23 wt%	0.05 mg/m ³	0.15 mg/m ³	1309-60-0
Lead Sulfate	(+/- Electrode)	PbSO ₄	<1 wt%	0.05 mg/m ³	0.15 mg/m ³	1309-60-0
Sulfuric Acid	(Electrolyte)	H ₂ SO ₄	8 wt%	1.0 mg/m ³	1.0 mg/m ³	7664-93-9

Percentages of components are dependent both on the model of the battery and the state of charge/discharge of the battery. Sulfuric Acid is reportable under Sections 302, 311, 312, and 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA). Reportable Quantity: 500 lbs for sulfuric acid and 10,000 lbs for lead. See Section XII, Page 3 for more information.

NOTE: Elk Products Sealed Lead Acid Batteries are a sealed, non-spillable design. Under normal use and handling the customer has no contact with the internal components of the battery or the chemical hazards. Under normal use and handling these batteries do not emit regulated or hazardous substances. Warning: Battery terminals/posts and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands thoroughly after working with batteries and before eating, drinking or smoking.

Section III: Physical / Chemical Characteristics

Boiling Point: Electrolyte 110°C -112°C
 Vapor Pressure: Electrolyte 11.7 mm Hg. At 20°C
 Vapor Density (AIR=1): Electrolyte 3.4
 Solubility in Water: Lead, Lead Oxide and Lead Sulfate are insoluble in water. Sulfuric Acid is 100% soluble in water.
 Appearance and Odor: The entire battery is a solid article consisting of an opaque plastic case with two protruding lead terminals. The battery is odorless. Sulfuric Acid is a liquid.
 Specific Gravity (H₂O = 1) Electrolyte 1.300

Health Hazard Information (Acute and Chronic) – Sulfuric Acid only.

The International Agency for Research on Cancer (IARC) has classified “strong inorganic acid mist containing sulfuric acid” as a Category I carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within the battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may however result in the generation of sulfuric acid mist.

Routes of Entry: By inhalation (mist), skin and eyes, ingestion.
 Acute: Tissue destruction on contact. May cause 2nd and 3rd degree burns or blindness. Ingestion will cause corrosive burns on contact. May be fatal if swallowed.
 Chronic: Inhalation of mists may cause upper respiratory irritation.
 Signs and Symptoms: Irritation and burning of exposed tissues.
 Medical Conditions: Respiratory disorders may be aggravated by prolonged inhalation of mists.

Section IV: Emergency and First Aid Procedures**Battery Electrolyte**

Inhalation: Remove to fresh air. Give oxygen or artificial respiration if needed. **Get immediate medical attention.**
 Eye Contact: Flush with plenty of water for at least 15 minutes. **Get immediate medical attention.**

Skin Contact:	Remove contaminated clothing and flush affected areas with plenty of water for at least 15 minutes.
Ingestion:	Do not induce vomiting. Dilute by giving large quantities of water. If available give several glasses of milk. Do not give anything by mouth to an unconscious person. Give CPR if breathing has stopped. Get immediate medical attention.

Section V: Fire and Explosion Hazard Data

Flash Point:	Not Applicable
Flammable Limits:	Lower 4.10% (Hydrogen gas) Upper 74.20%
Extinguishing Media:	Dry chemical, foam, halon or CO ₂ .

Special Fire Fighting Procedures:

If batteries are on charge, turn off power. Use positive pressure, self-contained breathing apparatus in fighting fire. Water applied to electrolyte generates heat and causes it to splatter. Wear acid resistant clothing. Ventilate area well.

Unusual Fire and Explosion Hazards:

Hydrogen and oxygen gases are generated in cells during normal battery operation or when on charge. (Hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps during battery overcharging. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Ventilate area well.

Section VI: Reactivity Data

Stability:	Stable under normal conditions.
Conditions to Avoid:	Sparks and other sources of ignition. Prolonged overcharge. Fire or explosion hazard due to possible hydrogen gas generation.
Incompatibility:	Combination of sulfuric acid with combustibles and organic materials may cause fire and explosion. Avoid strong reducing agents, most metals, carbides, chlorates, nitrates, picrate.
Hazardous Decomposition Products:	Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. CO, CO ₂ and sulfur oxides may emit in fire. Hazardous polymerization will not occur.

Section VII: Precaution for Safe Handling and Use

Steps to be Taken in Case of Broken Battery Case or Electrolyte Leakage:

Neutralize any electrolyte or exposed internal battery parts with sodium bicarbonate until fizzing stops. Keep untrained personnel away from electrolyte and broken battery. Place broken battery and clean-up materials in a plastic bag or non-metallic container. Dispose of clean-up materials as a hazardous waste. Ventilate area as hydrogen gas may be given off during neutralization.

Waste Disposal Method:

Federal and State laws prohibit the improper disposal of all lead acid batteries. The battery end users (owners) are responsible for their batteries from the date of purchase through their ultimate disposal. The only legally acceptable method of disposal of lead acid batteries is to recycle them at a Resource Conservation and Recovery Act (RCRA) approved secondary lead smelter.

HAZARDOUS WASTE CODES: D002, D008

Precautions to be Taken in Handling, Storing and Transportaton:

Store in a cool, dry area away from combustible materials. Do not store in sealed, unventilated areas. Avoid overheating and overcharging.

Other Precautions:

Do not charge in unventilated areas. Do not use organic solvents or other than recommended chemical cleaners on battery.

Section VIII: Control Measures / Personal Protection

General:

Normal room ventilation is sufficient during normal use and handling. Recommend 2 to 3 room air changes per hour to prevent buildup of hydrogen gas.

Personal Protective Equipment (In the Event of Battery Case Breakage):

Always wear safety glasses with side shields or full face shield.
Use rubber or neoprene gloves.
Wear acid resistant boots, apron or clothing.

Work/Hygenic Practices:

Remove jewelry, rings, watches and any other metallic objects while working on batteries. All tools should be adequately insulated to avoid the possibility of shorting connections. DO NOT lay tools on top of battery. Be sure to discharge static electricity from tools and individual person by touching a grounded surface in the vicinity of the batteries but away from cells. Batteries are heavy. Serious injury can result from improper lifting or installation. DO NOT lift, carry, install or remove cells by lifting or pulling the terminal posts for safety reasons and because terminal posts and post seals may be damaged. DO NOT wear nylon clothes or overalls as they can create static electricity. DO KEEP a fire extinguisher and emergency communications device in the work area.

IMPORTANT:

Wash hands thoroughly after working with batteries and before eating, drinking or smoking.

Section IX: Regulatory Information**NFPA Hazard Rating for Sulfuric Acid:**

Flammability (Red) = 0

Health (Blue) = 3

Reactivity (Yellow) = 2

Section X: Transportation Information

Identification and proper Shipping Name:

Batteries – Wet, Non-Spillable, Electric Storage, UN 2800.

DOT – Unregulated, meets the requirements of 49 CFR 173, 159(d).

IATA/ICAO – Unregulated, meets the requirements of Special Provision A67.

IMO – Unregulated.

*For all modes of transportation, each battery and outer package must be labeled: “Non-Spillable Battery” This label must be visible during transportation. *Batteries must be securely packed to prevent short-circuiting.

Section XI: California Proposition 65 Information

The State of California has determined that certain battery terminals contain lead and lead compounds, and handling this product may also expose you to sulfuric acid mist, chemicals known to the State of California to cause cancer and reproductive harm. **IMPORTANT: WASH HANDS THOROUGHLY AFTER WORKING WITH BATTERIES AND BEFORE EATING, DRINKING OR SMOKING.**

Section XII: Other Information**General Product Description – Sealed Lead Acid (VRLA) Batteries**

Elk Products Sealed Lead Acid Series Batteries are sealed (valve regulated) non-spillable lead-acid batteries with pasted lead-calcium plates. The electrolyte is held captive in an Absorbed Glass Mat (AGM) separator between plates that immobilizes the electrolyte in the cell. AGM separator material is highly porous, absorbent micro fiberglass mat mixed with polymer fibers. There is no “free” electrolyte to leak out if the cell is tipped over (cell case and cover are sealed together) or if the cell is punctured. The AGM separator material immobilizes the electrolyte and creates a situation where the spill of electrolyte is highly unlikely. Typical accidents where a battery case is punctured results in a slight drip or a slow ooze of material out of the cell that cannot be characterized as a spill.

Elk Products Sealed Lead Acid Batteries are also different from conventional unsealed (wet/flooded) cells because they contain only a minimum amount of electrolyte. VRLA battery electrolyte is a dilute mixture of sulfuric acid in water, which typically has a specific gravity between 1.27 and 1.30. Pure sulfuric acid has a specific gravity of 1.835.

These batteries DO NOT contain a gel electrolyte.

During normal battery installation, operation and maintenance, the user has NO contact with the internal components of the battery or its internal hazardous chemicals.

Elk Products Sealed Lead Acid Series batteries are UL recognized under the file number MH18851.

NOTICE TO READERS: DISCLAIMER

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Supplemental Information on Elk Products Sealed Lead Acid Batteries**Transportation**

All Elk Products Sealed Lead Acid Batteries are considered “non-spillable” for purposes of transportation by the U.S. Department of Transportation (DOT), International Civil Aviation Administration (ICAO), the International Air Transport Association (AITA) and the International Maritime Dangerous Goods regulations (IMDG). They are considered “non-spillable” by DOT by passing the Vibration Test and Pressure Differential Test as required in 49 CFR 173.159(d). They are also considered to be “non-spillable” by both ICAO and IATA by exceeding the requirements for Special Provisions “A67” as defined in their 1998 Handbooks.

Our batteries are authorized for transportation on deck or under deck storage on either a passenger or cargo vessel by passing the Vibration Test and Pressure Differential Tests as described in the International Maritime Dangerous Goods Regulations (IMDG).

To transport these batteries as “non-spillable” they must be shipped in a condition that would protect them from short-circuits and be securely packaged so as to withstand conditions normal to transportation. For transportation by a consumer, in or out of a device, they are unregulated thus requiring no additional special handling or packaging.

Valve-Regulated Sealed Lead Acid batteries destined for recycling can be managed under the federal Universal Waste Rule codified at 40 CFR Part 273.

In the event of disposal, dispose only in accordance with federal, state and local regulations. Batteries generated as a waste are subject to the Resource Conservation and Recovery Act (RCRA) as a D008 (lead) hazardous waste.