

## – Material Safety Data Sheet –

### Lead Acid Battery Wet, Filled with Acid

#### SECTION I

**Manufacturer's Name:** East Penn Manufacturing Co., Inc.  
 East Penn Manufacturing Co., Inc.  
 Deka Road, Lyon Station, PA 19536  
**Telephone Number for Information:** (610) 682-6361  
**Emergency Telephone Number:** CHEMTREC: 1-800-424-9300,  
 In Washington D.C. or outside continental U.S., call 1-202-483-7616

**Date:** March 15, 2002

**Trade Name:** Electric Storage Battery, SLI or Industrial Battery  
**Classification:** Battery wet, filled with acid, electric storage  
 UN2794

#### SECTION II

#### HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| Hazardous Components<br>Specific Chemical Identity<br>(Common Name (s)) | OSHA PEL               | ACGIH TLV              | Range<br>Percent<br>By Weight | Average |
|---|------------------------|------------------------|-------------------------------|---------|
| Lead, CAS #7439921  | 0.05 mg/m <sup>3</sup> | 0.05 mg/m <sup>3</sup> | 43-70                         | 65      |
| Sulfuric Acid, CAS #7664939   | 1.00 mg/m <sup>3</sup> | 1.00 mg/m <sup>3</sup> | 20-44                         | 25      |
| Antimony, CAS #7440360  | 0.50 mg/m <sup>3</sup> | 0.50 mg/m <sup>3</sup> | 0-4                           | <1      |
| Arsenic, CAS #7440382   | 0.01 mg/m <sup>3</sup> | 0.01 mg/m <sup>3</sup> | <.01                          | -       |
| Polypropylene, CAS #9003070   | -                      | -                      | 5-10                          | 8       |
| Calcium, CAS #7440702   | 1.0 mg/m <sup>3</sup>  | 1.0 mg/m <sup>3</sup>  | <1                            | <1      |

#### SECTION III

#### PHYSICAL/CHEMICAL CHARACTERISTICS

**Electrolyte (Sulfuric Acid):**

**Appearance and Odor:** Clear, Odorless, Colorless  
**Boiling Point:** approximately 235° F  
**Evaporation Rate (Butyl Acetate=1):** less than 1.0  
**Melting Point:** N/A

**Solubility in Water:** Completely  
**Specific Gravity (H<sub>2</sub>O=1):** 1.220 – 1.325  
**Vapor Density (AIR=1):** N/A  
**Vapor Pressure (mm Hg):** 13

#### SECTION IV

#### FIRE AND EXPLOSION HAZARD DATA

**Flash Point (Method Used):** Non-Flammable  
**Extinguishing Media:** Class ABC extinguisher, CO<sub>2</sub>

**Flammable Limits:** \*Hydrogen Gas  
**LEL:** 4% **UEL:** 74%

**Special Fire Fighting Procedures:** Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors in a fire situation are corrosive. Wear special respiratory protection (SCBA) and clothing.

**Unusual Fire and Explosion Hazards:** \*Hydrogen gas, which may explode if ignited, is produced by this battery, especially when charging. Use adequate ventilation; avoid open flames, sparks, or other sources of ignition.

#### SECTION V

#### REACTIVITY DATA

**Stability:** Stable **Condition to Avoid:** Prolonged overcharging, sources of ignition

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

**Hazardous Decomposition of By-Products:** Sulfuric Acid: Excessive overcharging or fire may create Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.

**Lead Compounds:** Contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

## SECTION VI HEALTH HAZARD DATA

**Route(s) of Entry:** Not Applicable under normal use. (Inhalation, skin contact, and ingestion)

**Health Hazards (Acute and Chronic):** Do not open battery, avoid contact with internal components. Internal components are Oxide lead and electrolyte. **Short term exposure:** Sulfuric acid may cause irritation of eyes, nose, and throat. Prolonged contact may cause severe burns. **Long term exposure:** Repeated contact causes irritation and skin burns. Repeated exposure to mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat, and bronchial tubes.

**TARGET ORGAN:** (Electrolyte) respiratory system, eyes, skin, and teeth

**Carcinogenicity:**

**Sulfuric Acid:** The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product such as overcharging, may result in the generation of sulfuric acid mist.

**Lead Compounds:** Lead is listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.

**Arsenic:** Listed by National Toxicology Program (NTP), IARC, OSHA and NIOSH as a carcinogen only after prolonged exposure at high levels.

**Signs and Symptoms of Exposure:** Acid contact may cause irritation of eyes, nose and throat. Breathing of mist may produce respiratory difficulty. Contact with eyes and skin causes irritation and skin burns. Sulfuric acid is a CORROSIVE chemical.

**Medical Conditions Generally Aggravated by Exposure:** Sulfuric Acid Mist exposure may aggravate medical conditions such as, pulmonary edema, bronchitis, emphysema, dental erosion, and tracheobronchitis. Pregnant women and children must be protected from lead exposure.

**Emergency and First Aid Procedures:** (Sulfuric Acid)

- 1) Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and obtain medical attention if necessary. Eye wash and/or emergency shower should be readily available.
- 2) If swallowed, give large volumes of water. **DO NOT** induce vomiting, obtain medical treatment.

## SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps to be Taken in Case Material is Released or Spilled:** *SULFURIC ACID:* Dilute spill cautiously with five to six volumes of water and gradually neutralize with sodium bicarbonate, soda ash or lime. When exposure level is not known, wear NIOSH approved positive pressure self-contained breathing apparatus. Reference North American Emergency Response Guidebook, #154.

**Waste Disposal Method:** Lead-acid batteries are completely recyclable. For information on returning batteries to East Penn for recycling, contact your East Penn Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

**Precautions to be Taken in Handling and Storing:** Store away from reactive material as defined in Section V, Reactivity Data. Place cardboard between layers of stacked batteries to avoid damage and short circuit. Do not allow metallic materials to simultaneously contact both terminals.

**Other Precautions:** Sodium bicarbonate, soda ash, sand, or lime should be kept in same general area for emergency use. Keep away from sources of ignition during charging see Section IV on generation of hydrogen gas. If battery case is broken, avoid direct contact with internal components.

## SECTION VIII CONTROL MEASURES

**Respiratory Protection (Specific Type):** Respirator required when PEL is exceeded or employee witnesses respiratory irritation. (see Section VI, Health Hazard Data).

**Ventilation:** Must be provided when charging in an enclosed area. (29CFR1910.178(g) and .305(j)(7))

Mechanical (general): Acceptable at 1 to 4 air exchanges/hour or to maintain air concentrations below the PEL.

Local Exhaust: Preferred

Other: Local building/fire codes may require explosion proof fans and equipment

**Protective Gloves:** Acid resistant

**Eye Protection:** Preferred, safety glasses, goggles, face shield

**Other Protective Clothing or Equipment:** Acid resistant aprons, boots, and protective clothing

**Work Hygienic Practices:** Good Personal hygiene and work practices are mandatory.

## SECTION IX OTHER REGULATORY INFORMATION

| <u>NFPA Hazard Rating</u> | <u>Sulfuric Acid</u> | <u>Lead</u> |
|---------------------------|----------------------|-------------|
| Health(Blue)              | 3                    | 3           |
| Flammability (Red)        | 0                    | 0           |
| Reactivity (Yellow)       | 2                    | 0           |

Note: Sulfuric acid is water-reactive if concentrated.

|  |           |
|--|-----------|
| <b>U.S. DOT:</b> Battery Wet, Filled with Acid |           |
| Hazard Class/Division                          | 8         |
| ID Number                                      | UN2794    |
| Packing Group                                  | III       |
| Label Requirement                              | Corrosive |

**RCRA:** Spent lead-acid batteries are not regulated as hazardous waste when recycled. Spilled sulfuric acid is a characteristic hazardous waste, EPA hazardous waste number D002 (corrosivity).

**CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know ACT)**

- a) Reportable Quantity (RQ) for spilled 100% sulfuric acid is 1000 lbs.
- b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA with a Threshold Planning Quantity (TPQ) of 1000 lbs.
- c) EPCRA Section 312 Tier II reporting required for batteries if sulfuric acid is present in quantities of 500 lbs or more and/or lead is present in quantities of 10,000 lbs or more.

**California Prop 65:** This product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

For additional information concerning East Penn Manufacturing Co., Inc. products or questions concerning the content of this MSDS please contact your East Penn representative.

This information is accurate to the best of East Penn Mfg. Co.'s knowledge or obtained from sources believed by East Penn to be accurate. Before using any product, read all warnings and directions on the label.