

**– Material Safety Data Sheet –  
Battery Fluid Acid**

**SECTION I**

**Manufacturer's Name:**

East Penn Manufacturing Co., Inc.  
Deka Road, Lyon Station, PA 19536

**Date:** January 29, 2007

**Telephone Number for Information:** (610) 682-6361

**Trade Name:** Battery electrolyte, UN2796

**Emergency Telephone Number: CHEMTREC:** 1-800-424-9300,  
In Washington D.C. or outside continental U.S., call 1-202-483-7616

**SECTION II**

**HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

Hazardous Components Specific Chemical Identity (Common Name (s))	OSHA PEL	ACGIH TLV	Range Percent By Weight
Sulfuric Acid, CAS #7664939	1.00 mg/m <sup>3</sup>	1.00 mg/m <sup>3</sup>	30-43

**SECTION III**

**PHYSICAL/CHEMICAL CHARACTERISTICS**

**Appearance and Odor:** clear, odorless, colorless

**Solubility in Water:** completely

**Boiling Point:** approximately 235°F

**Specific Gravity (H<sub>2</sub>O=1):** 1.220-1.325

**Evaporation Rate (Butyl Acetate=1):** less than 1.0

**Vapor Density (AIR=1):** N/A

**Melting Point:** N/A

**Vapor Pressure (mm Hg.):** 13

**SECTION IV**

**FIRE AND EXPLOSION HAZARD DATA**

**Flash Point (Method Used):** Not applicable    **Flammable Limits:** (hydrogen gas)    **LEL:** 4    **UEL:** 74

**Extinguishing Media:** CO<sub>2</sub>, foam, dry chemical

**Special Fire Fighting Procedures:** Sulfuric acid will not burn but is capable of igniting finely combustible material on contact. Combustibles may be smothered by dry chemical extinguishing media. Wear acid resistant clothing. Fire may produce irritating or poisonous gases.

**SECTION V**

**REACTIVITY DATA**

**Stability:** Stable    **Condition to Avoid:** Contact with metal may release explosive hydrogen gas.

**Incompatibility (Materials to Avoid):** Strong alkali materials, carbides, chlorates, nitrates, and pierates, organic acid, acetates, anhydrites, metals.

**Hazardous Decomposition of By-Products:** Thermal decomposition or combustion may produce a sulfur trioxide and/or sulfur dioxide.

**Hazardous Polymerization:** will not occur

## SECTION VI HEALTH HAZARD DATA

**Route(s) of Entry:** Inhalation, skin contact, and ingestion

**Carcinogenicity:** 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. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product within a battery. Misuse of the product such as overcharging, may result in the generation of sulfuric acid mist.

**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:** Pulmonary edema, bronchitis, emphysema, dental erosion, traceobronchitis, pre-existing lung disease.

**Health Hazards (Acute and Chronic):**

**Short term exposure:** Sulfuric acid may cause irritation of eyes, nose, and throat. Prolonged contact may cause chemical 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:** respiratory system, eyes, skin, & teeth

**Emergency and First Aid Procedures:**

- 1) If inhaled, immediately remove to fresh air. If difficult breathing persists, obtain medical attention.
- 2) Remove contaminated clothing. Flush contacted area with large amounts of water for at least 15 minutes. Obtain medical attention.
- 3) If swallowed, give large volumes of water. **DO NOT** induce vomiting, obtain medical treatment.
- 4) Eyewash and shower stations should be made available.

## SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps to be Taken in Case Material is Released or Spilled:** Stop flow if possible. Soak up small spills with clay, sand, or diatomaceous earth. Dike large spills. 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/MSHA approved respirator or SCBA. (Reference DOT Emergency Response Guide #157, UN2796)

**Waste Disposal Method:** Neutralize and dispose in accordance with local, state, and federal regulations.

**Precautions to be Taken in Handling and Storing:** Store away from reactive material as defined in Section V, Reactivity Data. Avoid direct contact.

**Other Precautions:** Sodium bicarbonate, soda ash, sand, or lime should be kept in same general area for emergency use.

## SECTION VIII CONTROL MEASURES

**Respiratory Protection (Specific Type):** NIOSH/MSHA approved, respirator required when PEL is exceeded or employee witnesses respiratory irritation. (See Section VI, Health Hazard Data).

**Ventilation:** When PEL is exceeded.

Mechanical (general):

Local exhaust: preferred

Special: none

Other: Adequate ventilation to maintain exposure concentrations below the PEL.

**Protective Clothing:** acid resistant gloves, acid resistant apron

**Eye Protection:** Mandatory during handling and transfer of acid (recommend chemical goggles). Face shield during transfer of acid.

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

**SECTION IX  
OTHER REGULATORY INFORMATION**

**NFPA Hazard Rating:** Health = 3 Flammability = 0 Reactivity = 2

**US DOT:**

Proper Shipping Name	Battery Fluid, Acid
Hazard Class/Division	8
I.D. Number	UN2796
Packing Group	II
Label Requirement	Corrosive

**RCRA:** Spilled sulfuric acid may be 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) Batteries are subject EPCRA reporting requirements under sections 302/304, 311/312 and 313.  
Reporting quantities are as follows:
  - Lead: section 311/312 = 100 lbs.
  - Title III section 313 = 100 lbs.
  - Sulfuric Acid: section 311/312 = 500 lbs.
  - Title III section 313 = 500 lbs.

**California Prop 65:** Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **WASH HANDS AFTER HANDLING.**

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.