



SAFETY DATA SHEET
BATTERY FLUID ACID

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Battery Fluid Acid
OTHER PRODUCT NAMES: Battery Electrolyte, UN2796

MANUFACTURER: East Penn Manufacturing Company
ADDRESS: Deka Road
Lyon Station, PA 19536 USA

EMERGENCY TELEPHONE NUMBERS: US/CN: CHEMTREC 1-800-424-9300
Outside US/CN: CHEMTREC 1-703-527-3887

NON-EMERGENCY HEALTH/SAFETY INFORMATION: 610-682-6361

CHEMICAL FAMILY: Sulfuric acid solution.

PRODUCT USE: Electrolyte for Industrial/Commercial electrical storage batteries.

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification – Health

Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 1
Carcinogenicity(acid mist)	Category 1A

GHS Label



Signal Word: DANGER !



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Health

Hazard Statements

Causes severe skin burns and eye damage.
Causes serious eye irritation.
May be harmful if swallowed.
May cause respiratory system irritation.

Environmental

Harmful to aquatic life.

Prevention

Do not breathe dust/fume/gas/mist/vapor/spray.
Use only outdoors or in a well-ventilated area.
Wash face, hands, and any exposed skin thoroughly after handling.
Wear protective gloves/ clothing, and eye/face protection.

Response

Immediately call a poison center or a doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage/Disposal

Keep out of reach of children
Avoid release to the environment.
Collect spillage.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Keep away from heat/sparks/open flames/hot surfaces.

EMERGENCY OVERVIEW: Causes severe burns. Acid mist is irritating to eyes, respiratory system, and skin. Prolonged inhalation or ingestion may result in serious damage to health.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENTS (Chemical/Common Names):</u>	<u>CAS No.:</u>	<u>% by Wt:</u>	<u>EC No.:</u>
Sulfuric acid (Electrolyte)	7664-93-9	30-43 (average: 36.5)	231-639-5
Water	7732-18-5	Balance	231-791-2

SECTION 4: FIRST AID MEASURES

- EYE CONTACT:** An eye wash/emergency shower should be provided wherever battery acid exposure is possible. Flush eyes immediately with large amounts of water for at least 15 minutes while lifting eyelids. Remove contaminated clothing and seek immediate medical attention if eyes have been exposed directly to acid.
- SKIN CONTACT:** Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.
- INGESTION:** If swallowed, give large amounts of water. Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death; consult physician.
- INHALATION:** If inhaled, remove to fresh air immediately. If breathing difficulties develop, obtain medical treatment.



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SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: CO₂ ; foam; dry chemical. Trained fire-fighters may use water spray under certain conditions.

SPECIAL FIRE-FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:

Sulfuric acid will not burn, but is capable of igniting finely divided combustible materials on contact. Use dry chemical agents to smother combustible materials. Avoid breathing mists and vapors. Use full protective equipment (acid-resistant bunker gear) and self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Battery fluid can evolve flammable hydrogen gas when exposed to metals (such as during charging of lead acid batteries) and may increase the fire risk near sparks, excessive heat or open flames. See Section 10 for list of fire by-products.

SPECIFIC HAZARDS IN CASE OF FIRE:

Battery Electrolyte (Sulfuric Acid) is corrosive.

Additional Information

Fire-fighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Electrolyte material contains sulfuric acid and is corrosive. Wear appropriate protective clothing. If toxic vapors are produced at unknown concentrations, wear a NIOSH-approved respirator or SCBA.

ENVIRONMENTAL PRECAUTIONS:

Prevent spilled material from entering sewers and waterways.

SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:

Stop flow of leaking liquid. Small spills: Use clay, sand, or diatomaceous earth. Dike large spills: Neutralize any spilled electrolyte with neutralizing agents, such as soda ash, sodium carbonate/bicarbonate, or lime. Sweep or shovel spilled material and absorbent and place in approved container. Dispose of any non-recyclable materials in accordance with local, state, provincial or federal regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:

- Keep containers tightly closed when not in use.
- Do not handle near heat, sparks, or open flames.
- Protect containers from physical damage to avoid leaks and spills.
- Wear appropriate PPE see Section 8.

OTHER PRECAUTIONS (e.g.; Incompatibilities)

Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers, and water.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits (mg/m³)

Ingredients	OSHA PEL	ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Sulfuric acid (Electrolyte)	1	0.2	1	1	0.2	0.05 (a)

(a) Thoracic fraction

ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:

Use in areas with adequate ventilation.

RESPIRATORY PROTECTION (NIOSH/MSHA approved):



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None required under normal conditions. See also special fire-fighting procedures (Section 5).

EYE PROTECTION:

Wear protective glasses with side shields or goggles. Use a full face shield when pouring acid or when any splashing may occur.

SKIN PROTECTION:

Wear acid resistant gloves as a standard procedure to prevent skin contact.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Acid resistant apron and face shield recommended when adding water or electrolyte to batteries.

Wash hands after handling.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, colorless liquid
ODOR:	Odorless
ODOR THRESHOLD:	NA
PHYSICAL STATE:	Sulfuric Acid: Liquid
pH:	<1.0
BOILING POINT:	235-240° F (113-116°C)
MELTING POINT:	NA
FREEZING POINT:	NA
VAPOR PRESSURE:	13 mmHg
VAPOR DENSITY (AIR = 1):	NA
SPECIFIC GRAVITY (H ₂ O = 1):	1.2–1.3
EVAPORATION RATE (n-BuAc=1):	< 1
SOLUBILITY IN WATER:	100%
FLASH POINT:	NA
AUTO-IGNITION TEMPERATURE:	932° F (500°C) (as hydrogen gas)
LOWER EXPLOSIVE LIMIT (LEL):	4% (as hydrogen gas)
UPPER EXPLOSIVE LIMIT (UEL):	74% (as hydrogen gas)
PARTITION COEFFICIENT:	NA
VISCOSITY (poise @ 25° C):	Not Available
DECOMPOSITION TEMPERATURE:	Not Available

FLAMMABILITY/HMIS HAZARD CLASSIFICATIONS (US/CN/EU)

HEALTH 3 FLAMMABILITY 0 REACTIVITY 2

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	This product is stable under normal conditions at ambient temperature.
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong bases, finely divided combustible materials, reducing agents, finely divided metals, and strong oxidizers.
HAZARDOUS DECOMPOSITION BY-PRODUCTS:	Thermal decomposition will produce sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen sulfide.
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS TO AVOID:	Finely divided metals. Concentrated acid may react with water.

SECTION 11: TOXICOLOGICAL INFORMATION



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ACUTE TOXICITY (Test Results Basis and Comments):

LD₅₀, Rat: 2140 mg/kg

LC₅₀, Guinea pig: 510 mg/m³

Routes of Entry: Harmful by all routes of entry.

Inhalation: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.

Ingestion: May cause severe irritation of mouth, throat, esophagus, and stomach.

Skin Contact: Severe irritation, burns and ulceration.

Eye Contact: Severe irritation, burns, cornea damage, and blindness.

Effects of Overexposure - Acute: Severe skin irritation, damage to cornea, upper respiratory irritation.

Effects of Overexposure - Chronic: Possible erosion of tooth enamel, inflammation of nose, throat and bronchial tubes.

Carcinogenicity: 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 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.

Medical Conditions Generally Aggravated by Exposure: Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of sulfuric acid with skin may aggravate diseases such as eczema and contact dermatitis.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY: Sulfuric acid is reactive and not very persistent in the ecosystem.

BIO-ACCUMULATIVE POTENTIAL (Including Mobility): Very high mobility and solubility indicate very low risk of bioaccumulation.

AQUATIC TOXICITY (Test Results and Comments):

24-hr LC₅₀, fresh water fish (*Brachydanio rerio*): 82 mg/l

96-hr LOEC, fresh water fish (*Cyprinus carpio*): 22 mg/l (lowest observable effect concentration)

Additional Information

- No known effects on stratospheric ozone depletion.
- Volatile organic compounds: 0% (by Volume)
- Water Endangering Class (WGK): NA

SECTION 13: DISPOSAL CONSIDERATIONS (UNITED STATES)

WASTE DISPOSAL METHOD:

Neutralize acid and follow local, State/Provincial, and Federal/National regulations applicable to as-used, end-of-life characteristics to be determined by end-user.

HAZARDOUS WASTE CLASS/CODE:

US - Spilled sulfuric acid is a characteristic hazardous waste, U.S. EPA hazardous waste code D002.

SECTION 14: TRANSPORT INFORMATION



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GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Proper Shipping Name	Battery Fluid, Acid		
Hazard Class	8	ID Number	UN2796
Packing Group	II	Labels	Corrosive

AIRCRAFT – ICAO-IATA:

Proper Shipping Name	Battery Fluid, Acid		
Hazard Class	8	ID Number	UN2796
Packing Group	II	Labels	Corrosive

Reference IATA packing instructions Y840, 851, 855

VESSEL – IMO-IMDG:

Proper Shipping Name	Battery Fluid, Acid		
Hazard Class	8	ID Number	UN2796
Packing Group	II	Labels	Corrosive

Reference IMDG packing instructions P001.

Additional Information

Transport requires proper packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped.

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS:

All components are listed on the TSCA; EINECS/ELINCS; and DSL, unless noted otherwise below.

U.S. FEDERAL REGULATIONS:

TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b – Export Notification: If the finished product contains chemicals subject to TSCA Section 12b export notification, they are listed below:

<u>Chemical</u>	<u>CAS#</u>
None	NA

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

Chemicals present in the product which could require reporting under the statute:

<u>Chemical</u>	<u>CAS#</u>
Sulfuric Acid	7664-93-9

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

The finished product contains chemicals subject to the reporting requirements of Section 313 of SARA Title III.

<u>Chemical</u>	<u>CAS#</u>	<u>%Wt.</u>
Sulfuric Acid	7664-93-9	36.5

CERCLA SECTION 311/312 HAZARD CATEGORIES: Note that the finished product is exempt from these regulations, but lead and sulfuric acid above the thresholds are reportable on Tier II reports.

Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No
Immediate Hazard	Yes (EPA lists sulfuric acid as an Extremely Hazardous Substance)
Delayed Hazard	No

Sulfuric acid is regulated as an Extremely Hazardous Substance

STATE REGULATIONS (US)

California Proposition 65

The following chemicals identified to exist in the finished product as distributed into commerce are known to the State of California to cause cancer, birth defects, or other reproductive harm:

<u>Chemical</u>	<u>CAS#</u>	<u>%Wt.</u>
Strong inorganic acid mists including sulfuric acid	NA	36.5

California Consumer Product Volatile Organic Compound Emissions



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This Product is not
Consumer Product
CARB/OTC VOC
sold for
the intended
the industrial/commercial supply chain.

regulated as a
for purposes of
Regulations, as-
purpose and into

INTERNATIONAL REGULATIONS (Non-US):

Canadian Domestic Substance List (DSL)

All ingredients remaining in the finished product as distributed into commerce are included on the Domestic Substances List.

WHMIS Classifications

Class E: Corrosive materials present at greater than 1%

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Controlled Products Regulations.

NPRI and Ontario Regulation 127/01

This product contains the following chemicals subject to the reporting requirements of Canada NPRI +/-or Ont. Reg. 127/01:

<u>Chemical</u>	<u>CAS#</u>	<u>%Wt.</u>
None	NA	NA

European Inventory of Existing Commercial Chemical Substances (EINECS)

All ingredients remaining in the finished product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

European Communities (EC) Hazard Classification according to directives 67/548/EEC and 1999/45/EC.

<u>R-Phrases</u>	<u>S-Phrases</u>
35	1/2,26,30,45

Additional Information

This product may be subject to additional regulations and laws not identified above, such as for uses other than described or as-designed/as-intended by the manufacturer, or for distribution into specific domestic destinations.

SECTION 16: OTHER INFORMATION

Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2).
Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

SOURCES OF INFORMATION:

International Agency for Research on Cancer (1987), *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Overall Evaluations of Carcinogenicity: An updating of IARC Monographs Volumes 1-42, Supplement 7*, Lyon, France.
Ontario Ministry of Labour Regulation 654/86. Regulations Respecting Exposure to Chemical or Biological Agents. RTECS-Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health.

SDS PREPARATION INFORMATION:

DATE OF ISSUE: 1 May 2015

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