SAFETY DATA SHEET

1. Identification

Product identifier	**Battery Fluid Acid**
Other means of identification	None.
Recommended use	Electrolyte for Industrial/Commercial electrical storage batteries.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier	East Penn Manufacturing Company, Inc.
Address	102 Deka Road, Lyon Station PA 19536
Telephone number	(610) 682-6361
Contact person	East Penn EHS Department
Emergency telephone number	USA/Canada: CHEMTREC (800) 424-9300, Outside USA 1 (703) 527-3887
E-mail	contactus@eastpenn-deka.com

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Carcinogenicity	Category 1A
	Specific target organ toxicity, single exposure	Category 1 (respiratory system)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1 (respiratory system)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Causes severe skin burns and eye damage. May cause cancer. May cause respiratory irritation. Causes damage to organs (respiratory system). Causes damage to organs (respiratory system) through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapors. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid release to the environment.
Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage	Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sulphuric acid	7664-93-9	30 - 43

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits.

The manufacturer has claimed the exact percentage as trade secret under the OSHA Hazard Communication Standard.

4. First-aid measures

Inhalation Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.

Skin contact Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion Rinse mouth thoroughly with water. DO NOT induce vomiting because of danger of aspirating liquid into lungs. Get medical attention immediately.

Most important symptoms/effects, acute and delayed Exposure not expected under normal use conditions. Exposure to liquid causes serious eye and tissue damage. May cause serious chemical burns to the skin. Inhalation of mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Dry chemical, foam, carbon dioxide.

Unsuitable extinguishing media Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

Specific hazards arising from the chemical Sulfur trioxide (corrosive and toxic). Risk of fire and explosion on contact with metals as a result of hydrogen formation. Containers may explode when heated.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Substance does not burn but will support combustion.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up Neutralize the spilled material before disposal. Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Dispose of waste and residues in accordance with local authority requirements.

Environmental precautions Prevent runoff from entering drains, sewers, or streams.

7. Handling and storage

Precautions for safe handling
In the event of damage resulting in a leak of exposed materials, avoid contact with contents of an open or damaged cell or battery. Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Use personal protective equipment as required. Wash thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in original tightly closed container. Protect containers from damage.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sulphuric acid (CAS 7664-93-9)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sulphuric acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sulphuric acid (CAS 7664-93-9)	TWA	1 mg/m3

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Provide adequate ventilation. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection
Leak from a damaged or opened battery: Glove material: Nitrile rubber Layer thickness: 240 or 480 mm Breakthrough time: 0.153 or 0.381 min. Suitable gloves can be recommended by the glove supplier.

Other
Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Gas mask with acid gas canister and high-efficiency particulate filter.

Thermal hazards
When material is heated, wear gloves to protect against thermal burns.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
Clear, colorless liquid.

Physical state
Liquid.

Form
Sulfuric acid, liquid.

Color
Not available.

Odor
Odorless.

Odor threshold
Not available.

pH
< 1

Melting point/freezing point
Not available.

Initial boiling point and boiling range
235.4 - 240.8 °F (113 - 116 °C)

Flash point
Not available.

Evaporation rate
< 1

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	4 (as hydrogen gas)
Flammability limit - upper (%)	74 (as hydrogen gas)
Vapor pressure	13 mm Hg
Vapor density	Not available.
Relative density	1.2 - 1.3
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	932 °F (500 °C) (as hydrogen gas)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport. Exposure to contents of an open or damaged battery: Reacts violently with strong alkaline substances.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Do not allow water to get into container because of reaction.
Incompatible materials	Reducing agents. Strong bases. Combustible organic materials. Finely divided metals. Strong oxidizers.
Hazardous decomposition products	At elevated temperatures: Sulfur dioxide. Sulfur trioxide. Carbon monoxide. Sulfuric acid. Hydrogen sulfide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Mist or vapor may irritate the respiratory system. Difficulty in breathing. Inhalation of vapors or mists will likely result in mild to severe irritation of the nose, throat and lungs, depending on airborne concentration.
Skin contact	Causes severe skin burns.
Eye contact	Causes severe eye burns.
Ingestion	Causes digestive tract burns. May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Exposure not expected under normal use conditions. Exposure to liquid causes serious eye and tissue damage. May cause serious chemical burns to the skin. Inhalation of mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.

Information on toxicological effects

Acute toxicity May be harmful if swallowed.

Components	Species	Test Results
Sulphuric acid (CAS 7664-93-9)		
Acute		
Oral		
LD50	Rat	2140 mg/kg

Skin corrosion/irritation	Causes skin burns.
Serious eye damage/eye irritation	Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Due to lack of data the classification is not possible.

Skin sensitization Due to lack of data the classification is not possible.

Germ cell mutagenicity Due to lack of data the classification is not possible.

Carcinogenicity The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sulphuric acid (CAS 7664-93-9) 1 Carcinogenic to humans.

NTP Report on Carcinogens

Sulphuric acid (CAS 7664-93-9) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure May cause respiratory irritation. Causes damage to organs (respiratory system).

Specific target organ toxicity - repeated exposure Causes damage to organs (respiratory system) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

Further information Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Persistence and degradability Not persistent.

Bioaccumulative potential Potential to bioaccumulate is low.

Mobility in soil Potential for mobility in soil is very high. Expected to be highly mobile in soil.

Other adverse effects The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

13. Disposal considerations

Disposal instructions Neutralize electrolyte/sulfuric acid. Avoid discharge into water courses or onto the ground. Dispose of in accordance with local regulations.

Local disposal regulations Empty containers should be taken to an approved waste handling site for recycling or disposal.

Hazardous waste code D002: Corrosive waste

Waste from residues / unused products Avoid discharge into water courses or onto the ground.

Contaminated packaging Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN2796

UN proper shipping name Battery fluid, acid

Transport hazard class(es)

Class 8

Subsidiary risk -

Label(s) 8

Packing group II

Environmental hazards

Marine pollutant No

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions A3, A7, B2, B15, IB2, N6, N34, T8, TP2, TP12

Packaging exceptions 154

Packaging non bulk 202

Packaging bulk 242

IATA

UN number UN2796
UN proper shipping name Battery fluid, acid
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 8L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN2796
UN proper shipping name BATTERY FLUID, ACID
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Hazardous Chemical Reporting Requirements apply when an Extremely Hazardous Substance is present at a facility in an amount equal to or exceeding 500 pounds or the Threshold Planning Quantity, whichever is lower per 40CFR370.10(a)(1)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sulphuric acid (CAS 7664-93-9) Listed.

SARA 304 Emergency release notification

SULFURIC ACID (CAS 7664-93-9) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Sulphuric acid	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Sulphuric acid	7664-93-9	30 - 43

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Sulphuric acid (CAS 7664-93-9)

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Sulphuric acid (CAS 7664-93-9) 6552

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Sulphuric acid (CAS 7664-93-9) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Sulphuric acid (CAS 7664-93-9) 6552

US state regulations

US. Massachusetts RTK - Substance List

Sulphuric acid (CAS 7664-93-9)

US. New Jersey Worker and Community Right-to-Know Act

Sulphuric acid (CAS 7664-93-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Sulphuric acid (CAS 7664-93-9)

US. Rhode Island RTK

Sulphuric acid (CAS 7664-93-9)

California Proposition 65

WARNING: This product can expose you to Sulphuric acid, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.
or

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Sulphuric acid (CAS 7664-93-9) Listed: March 14, 2003

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sulphuric acid (CAS 7664-93-9)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 19-September-2017

Revision date 31-August-2020

Version # 04

List of abbreviations	LD50: Lethal Dose 50%.
References	IARC Monographs. Overall Evaluation of Carcinogenicity Registry of Toxic Effects of Chemical Substances (RTECS)
Disclaimer	EastPenn cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The information in this SDS was obtained from sources which we believe are reliable, but no warranty or representation as to its accuracy or completeness is hereby given. Users should consider the information herein only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal, the safety and health of employees and customers and the protection of the environment.