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

Not classified.

Physical hazards

Health hazards
- Skin corrosion/irritation: Category 1A
- 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 respiratory irritation. May cause cancer. 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 or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

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.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid</td>
<td>7664-93-9</td>
<td>30 - 43</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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: Causes severe burns. Exposure to mists may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract.

Most important symptoms/effects, acute and delayed: Treat symptomatically.

Indication of immediate medical attention and special treatment needed: 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: Stop the flow of material, if this is without risk. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Neutralize the spilled material before disposal. Sweep up or vacuum up spillage and collect in suitable container for 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: Keep away from heat, sparks and open flame.

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)

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid (CAS 7664-93-9)</td>
<td>1 mg/m³</td>
<td>PEL</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Type</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid (CAS 7664-93-9)</td>
<td>0.2 mg/m³</td>
<td>TWA</td>
<td>Thoracic fraction.</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid (CAS 7664-93-9)</td>
<td>1 mg/m³</td>
<td>TWA</td>
</tr>
</tbody>
</table>

Biological limit values

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

Appropriate engineering controls

Provide adequate ventilation. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Skin protection

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.
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
Hazardous decomposition products

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
   May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics
   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.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid (CAS 7664-93-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Oral LD50</td>
<td>Rat</td>
<td>2140 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin burns.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Causes serious eye damage.</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Due to lack of data the classification is not possible.</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>The International Agency for Research on Cancer (IARC) has classified &quot;strong inorganic acid mists containing sulfuric acid&quot; 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.</td>
<td></td>
</tr>
</tbody>
</table>

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 regulated.

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.

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.

Other adverse effects
None known.

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

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

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

Sulphuric acid (CAS 7664-93-9) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity (pounds)</th>
<th>Threshold planning quantity (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid</td>
<td>7664-93-9</td>
<td>1000</td>
<td>1000</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous chemical

| Classified hazard categories | Yes |

Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid</td>
<td>7664-93-9</td>
<td>30 - 43</td>
</tr>
</tbody>
</table>

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)

Not regulated.

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Chemical Code Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid</td>
<td>7664-93-9</td>
<td>6552</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphuric acid</td>
<td>7664-93-9</td>
<td>20 %WV</td>
</tr>
</tbody>
</table>

Battery Fluid Acid

929705 Version #: 02 Revision date: 08-January-2018 Issue date: 19-September-2017
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: Cancer and Reproductive Harm. www.P65warnings.ca.gov
or
PROPOSITION 65 WARNING: Battery posts, terminals and related accessories contain lead and
lead compounds, chemicals known to the State of California to cause cancer and reproductive
harm. Batteries also contain other chemicals known to the State of California to cause cancer.
WASH HANDS AFTER HANDLING.

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

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

"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 08-January-2018
Version # 02

List of abbreviations
LD50: Lethal Dose 50%.

References
IARC Monographs. Overall Evaluation of Carcinogenicity
Registry of Toxic Effects of Chemical Substances (RTECS)

Disclaimer
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.