

1. Identification

Product identifier	Valve Regulated Lead Acid Battery
Other means of identification	
Second identifier	U.S. Hazard Communication
Synonyms	Non-spillable Lead Acid Battery, Sealed Lead Acid Battery
Recommended use	Electric storage battery.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer/Supplier	East Penn Manufacturing Co.
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	Explosives	Division 1.3
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Carcinogenicity (Acid Mist)	Category 1A
	Carcinogenicity (Lead)	Category 1B
	Reproductive toxicity	Category 1A
	Reproductive toxicity	Effects on or via lactation
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1 (Blood, Central Nervous System, Kidney, Lungs)
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	The materials contained in this product may only represent a hazard if the integrity of the cell or battery is compromised; physically, thermally, or electrically abused. The below are the hazards anticipated under those conditions:

Explosive; fire, blast or projection hazard. Causes severe skin burns and eye damage. May cause cancer. May damage fertility or the unborn child. May cause harm to breast-fed children. May cause respiratory irritation. Causes damage to organs (Blood, Central Nervous System, Kidney, Lungs) through prolonged or repeated exposure.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep only in original packaging. Do not breathe dust. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
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Response	Explosion risk in case of fire. In case of fire: Evacuate area. Do NOT fight fire when fire reaches explosives. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. 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.
Storage	Store in accordance with local/regional/national/international regulations. Store in a well-ventilated place. Keep container tightly closed.
Disposal	Refer to manufacturer/supplier for information on recovery/recycling. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	In use, may form flammable/explosive vapor-air mixture.

Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Lead and lead compounds	7439-92-1	60 - 75
Sulphuric acid	7664-93-9	5 - 15

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Content composition concentrations will vary with battery type/size. The manufacturer has claimed the exact percentage as trade secret under the OSHA Hazard Communication Standard.

4. First-aid measures

Inhalation	Exposure to contents of an open or damaged battery: Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.
Skin contact	Exposure to contents of an open or damaged battery: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Eye contact	Exposure to contents of an open or damaged battery: Flush thoroughly with water for at least 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Get medical attention if irritation develops and persists.
Ingestion	Exposure to contents of an open or damaged battery: 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	Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful. Abdominal pain. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms include itching, burning, redness and tearing. May cause respiratory irritation. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues. Permanent eye damage including blindness could result.
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, water fog.
Unsuitable extinguishing media	In the event that a battery is ruptured and the internal components are exposed, DO NOT USE WATER. Do not use carbon dioxide directly on cells.
Specific hazards arising from the chemical	Batteries evolve flammable hydrogen gas during charging and may increase fire risk. 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	In case of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. DO NOT fight fire when fire reaches explosives.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive and flammable materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with skin, eyes and clothing. Keep unnecessary personnel away.
Methods and materials for containment and cleaning up	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	In the event of damage resulting in a leak of exposed materials, avoid contact with contents of an open or damaged cell or battery. Keep away from heat, sparks and open flame. Do not allow conductive material to touch the battery terminals. A dangerous short circuit may occur and cause battery failure and fire. Pregnant or breastfeeding women must not handle this product.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Protect containers from damage. Place cardboard between layers of stacked batteries to avoid damage and short circuits.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Components	Type	Value
Lead and lead compounds (CAS 7439-92-1)	TWA	0.05 mg/m ³

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

Components	Type	Value
Sulphuric acid (CAS 7664-93-9)	PEL	1 mg/m ³

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Lead and lead compounds (CAS 7439-92-1)	TWA	0.05 mg/m ³	
Sulphuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³	Thoracic fraction.

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
Lead and lead compounds (CAS 7439-92-1)	IDLH	100 mg/m ³
Sulphuric acid (CAS 7664-93-9)	IDLH	15 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Lead and lead compounds (CAS 7439-92-1)	TWA	0.05 mg/m ³
Sulphuric acid (CAS 7664-93-9)	TWA	1 mg/m ³

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

ACGIH Biological Exposure Indices (BEI)

Components	Value	Determinant	Specimen	Sampling Time
Lead and lead compounds (CAS 7439-92-1)	200 µg/l	Lead	Blood	*

* - For sampling details, please see the source document.

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	None under normal conditions. Leak from a damaged or opened battery: Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	None under normal conditions. Leak from a damaged or opened battery: Wear appropriate chemical resistant gloves. Glove material: Nitrile rubber Layer thickness: 0.152 or 0.381 mm Breakthrough time: 240 or 480 min. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	None under normal conditions. Leak from a damaged or opened battery: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	None under normal conditions. In the event that cell or battery is damaged, open, or leaking, respiratory protection should be worn where there is a potential to exceed the exposure limit requirements or guidelines.
Thermal hazards	When material is heated, wear gloves to protect against thermal burns.
General hygiene considerations	Observe any medical surveillance requirements. 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

Physical state	Solid.
Form	Sulfuric acid, gelatinous. Lead, solid.
Color	Various.
Odor	Odorless.
Odor threshold	Not applicable (material is odorless).
pH	< 1
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	> 235 - < 240 °F (> 112.78 - < 115.56 °C) (Sulfuric acid)
Flash point	Below room temperature (as hydrogen gas).
Evaporation rate	< 1 (n-BuAc=1)
Flammability (solid, gas)	Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive and flammable materials.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	4 % (Hydrogen)
Explosive limit - upper (%)	74 % (Hydrogen)
Vapor pressure	10 mm Hg
Vapor density	> 1 (Air=1)
Relative density	> 1.27 - < 1.33
Solubility(ies)	
Solubility (water)	100 % (Sulfuric acid)
Partition coefficient (n-octanol/water)	Not applicable, product is a mixture.
Auto-ignition temperature	Not applicable, material is a solid.
Decomposition temperature	Not applicable. Product is not unstable.
Viscosity	Not applicable, material is a solid.
Other information	
Explosive properties	Explosive.
Flammability	Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive and flammable materials.
Kinematic viscosity	Not applicable, material is a solid.
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	Overcharging. Ignition sources.
Incompatible materials	Strong bases. Combustible organic materials. Reducing agents. Finely divided metals. Strong oxidizers. Water.
Hazardous decomposition products	Sulfur dioxide. Sulfur trioxide. Carbon monoxide. Sulfuric acid. Hydrogen.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Exposure to contents of an open or damaged battery: May cause respiratory tract irritation.
Skin contact	Exposure to contents of an open or damaged battery: Causes severe skin burns.
Eye contact	Exposure to contents of an open or damaged battery: Causes serious eye damage.
Ingestion	Exposure to contents of an open or damaged battery: May cause digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics

Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful. Exposure to contents of an open or damaged battery: Abdominal pain. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

Information on toxicological effects

Acute toxicity Exposure to contents of an open or damaged battery: 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 Exposure to contents of an open or damaged battery: Causes severe skin burns.

Serious eye damage/eye irritation Exposure to contents of an open or damaged battery: Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization No data available.

Germ cell mutagenicity No data available.

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

Lead and lead compounds (CAS 7439-92-1) 2B Possibly carcinogenic to humans.

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

NTP Report on Carcinogens

Lead and lead compounds (CAS 7439-92-1) Reasonably Anticipated to be a Human Carcinogen.

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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity None under normal conditions. Exposure to contents of an open or damaged battery: May cause harm to breastfed babies. May damage fertility or the unborn child.

Specific target organ toxicity - single exposure	None under normal conditions. Exposure to contents of an open or damaged battery: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	None under normal conditions. Exposure to contents of an open or damaged battery: Causes damage to organs (Central nervous system, blood, kidney, lungs) through prolonged or repeated exposure.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	Exposure to contents of an open or damaged battery: Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues. Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.
Further information	Exposure to contents of an open or damaged battery: Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

12. Ecological information

Ecotoxicity None under normal conditions. Exposure to contents of an open or damaged battery: Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Lead and lead compounds (CAS 7439-92-1)	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		1.17 mg/l, 96 Hours

Persistence and degradability The degradation half-life of the product is not known. Lead and its compounds are highly persistent in water.

Bioaccumulative potential Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants, but very little bioaccumulation occurs through the food chain.

Partition coefficient n-octanol / water (log Kow)

Sulphuric acid (CAS 7664-93-9) -2.2

Mobility in soil If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Mobility in general None known.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Recycle the batteries as the primary disposal method. 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 Waste codes should be assigned by the user based on the application for which the product was used. RCRA: Spent lead-acid batteries are not regulated as hazardous waste when recycled. Depending upon circumstances, the following waste codes may apply: Spilled electrolyte/Sulfuric acid.

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

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

General information DOT: Not regulated per 49 CFR 173.159a.
IATA/ICAO: Not regulated per Special Provision A67.
IMDG: Not regulated per Special Provision #238.

Label: NON-SPILLABLE

15. Regulatory information

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

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

Lead and lead compounds (CAS 7439-92-1) 0.1 % Annual Export Notification required.

CERCLA Hazardous Substance List (40 CFR 302.4)

Lead and lead compounds (CAS 7439-92-1) Listed.

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

SARA 304 Emergency release notification

Sulfuric acid (aerosol forms only) (CAS 7664-93-9) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Lead and lead compounds (CAS 7439-92-1) Reproductive toxicity
Central nervous system
Kidney
Blood
Acute toxicity

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 Explosive
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Lead and lead compounds	7439-92-1	60 - 75
Sulphuric acid	7664-93-9	5 - 15

Other federal regulations

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

Lead and lead compounds (CAS 7439-92-1)

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

Lead and lead compounds (CAS 7439-92-1)

Sulphuric acid (CAS 7664-93-9)

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

Lead and lead compounds (CAS 7439-92-1)

Sulphuric acid (CAS 7664-93-9)

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

Lead and lead compounds (CAS 7439-92-1)

Sulphuric acid (CAS 7664-93-9)

US. Rhode Island RTK

Lead and lead compounds (CAS 7439-92-1)

Sulphuric acid (CAS 7664-93-9)

California Proposition 65



WARNING: This product can expose you to chemicals including Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Lead and lead compounds (CAS 7439-92-1) Listed: October 1, 1992

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

California Proposition 65 - CRT: Listed date/Developmental toxin

Lead and lead compounds (CAS 7439-92-1) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Female reproductive toxin

Lead and lead compounds (CAS 7439-92-1) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Lead and lead compounds (CAS 7439-92-1) Listed: February 27, 1987

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

Lead and lead compounds (CAS 7439-92-1)

Sulphuric acid (CAS 7664-93-9)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
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 that all components of this product comply 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	06-February-2024
Revision date	-
Version #	01
List of abbreviations	LC50: Lethal Concentration 50%. LD50: Lethal Dose 50%.
References	IARC Monographs. Overall Evaluation of Carcinogenicity Registry of Toxic Effects of Chemical Substances (RTECS)

Disclaimer

East Penn Manufacturing Co. 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.