SAFETY DATA SHEET

1. Identification

Product identifier	**Lead Acid Battery Wet, Filled With Acid**
Other means of identification	
Synonyms	may include gel/absorbed electrolyte type lead acid batteries
Recommended use	Electric storage battery.
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	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1A
	Serious eye damage/eye irritation	Category 1
	Carcinogenicity	Category 1A
	Reproductive toxicity	Category 1A
	Reproductive toxicity	Effects on or via lactation
	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 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

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:

Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May cause cancer. May damage fertility or the unborn child. May cause harm to breast-fed children. Causes damage to organs (respiratory system). Causes damage to organs (respiratory system) through prolonged or repeated exposure. May cause respiratory irritation. Very toxic 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe dust/mist/vapors. Do not eat, drink or smoke when using this product. Avoid contact during pregnancy/while nursing. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. 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. Collect spillage.

Storage 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 (inorganic)	7439-92-1	43 - 70
Electrolyte (Sulfuric acid)	7664-93-9	20 - 44
Antimony	7440-36-0	3 - 5

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 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.
Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

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	Do NOT use water on live electrical circuits.
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 do not breathe fumes. Move container from fire area if it can be done without risk.
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.
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 (inorganic) (CAS 7439-92-1)	TWA	0.05 mg/m3

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

Components	Type	Value
Antimony (CAS 7440-36-0)	PEL	0.5 mg/m3
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.05 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.05 mg/m3

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

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Lead and lead compounds (inorganic) (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.

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

Physical state Solid.

Form Sulfuric acid, liquid. Lead, solid.

Color Not available.

Odor Odorless.

Odor threshold Not available.

pH < 1

Melting point/freezing point Not available.

Initial boiling point and boiling range 235 - 240 °F (112.8 - 115.6 °C) (Sulfuric acid)

Flash point Below room temperature (as hydrogen gas).

Evaporation rate < 1 (n-BuAc=1)

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 4 % (Hydrogen)

Flammability 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 available.
Auto-ignition temperature	Not available.
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	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: Harmful if inhaled. Dust may irritate respiratory system. Difficulty in breathing. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Skin contact	Exposure to contents of an open or damaged battery: Causes skin burns.
Eye contact	Exposure to contents of an open or damaged battery: Causes severe eye burns.
Ingestion	Exposure to contents of an open or damaged battery: Harmful if swallowed.
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. 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: Harmful if inhaled or swallowed.

Components	Species	Test Results
Electrolyte (Sulfuric 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

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	1 Carcinogenic to humans.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	Known To Be Human Carcinogen.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	Reasonably Anticipated to be a 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: Causes damage to organs (respiratory system). 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 (respiratory system) 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.

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 (inorganic) (CAS 7439-92-1)		
LC50	Rainbow trout, donaldson trout (Oncorhynhus 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.

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

Mobility in general The product is insoluble in water and will spread on water surfaces.

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. Do not contaminate ponds, waterways or ditches with chemical or used container.

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

Hazardous waste code 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. 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 UN2794
UN proper shipping name Batteries, wet, filled with acid, electric storage
Transport hazard class(es)
Class 8
Subsidiary risk -
Label(s) 8
Packing group -
Environmental hazards
Marine pollutant No
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions 159
Packaging non bulk 159

Packaging bulk	159

IATA

UN number	UN2794
UN proper shipping name	Batteries, wet, filled with acid electric storage
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	-
Environmental hazards	No
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Packing Instruction: 870

IMDG

UN number	UN2794
UN proper shipping name	BATTERIES, WET, FILLED WITH ACID electric storage
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	-
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Packing Instruction: P801

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)

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

CERCLA Hazardous Substance List (40 CFR 302.4)

Antimony (CAS 7440-36-0)	Listed.
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	Listed.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	Listed.

SARA 304 Emergency release notification

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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Lead and lead compounds (inorganic) (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)
Electrolyte (Sulfuric acid)	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
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.
Antimony	7440-36-0	3 - 5
Electrolyte (Sulfuric acid)	7664-93-9	20 - 44
Lead and lead compounds (inorganic)	7439-92-1	43 - 70

Other federal regulations

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

Antimony (CAS 7440-36-0)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

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

Electrolyte (Sulfuric 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

Electrolyte (Sulfuric acid) (CAS 7664-93-9) 6552

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

Electrolyte (Sulfuric acid) (CAS 7664-93-9) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Electrolyte (Sulfuric acid) (CAS 7664-93-9) 6552

US state regulations

US. Massachusetts RTK - Substance List

Antimony (CAS 7440-36-0)
Electrolyte (Sulfuric acid) (CAS 7664-93-9)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

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

Antimony (CAS 7440-36-0)
Electrolyte (Sulfuric acid) (CAS 7664-93-9)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

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

Antimony (CAS 7440-36-0)
Electrolyte (Sulfuric acid) (CAS 7664-93-9)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

US. Rhode Island RTK

Antimony (CAS 7440-36-0)
Electrolyte (Sulfuric acid) (CAS 7664-93-9)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

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

Arsenic (CAS 7440-38-2)	Listed: February 27, 1987
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	Listed: March 14, 2003
Lead and lead compounds (inorganic) (CAS 7439-92-1)	Listed: October 1, 1992

California Proposition 65 - CRT: Listed date/Developmental toxin

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

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

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

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

Lead and lead compounds (inorganic) (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))

Antimony (CAS 7440-36-0)
Electrolyte (Sulfuric acid) (CAS 7664-93-9)
Lead and lead compounds (inorganic) (CAS 7439-92-1)

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)	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 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 #	03
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	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.