



SAFETY DATA SHEET BATTERY, DRY

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Lead Acid Battery, Dry (without electrolyte)
OTHER PRODUCT NAMES: Battery, Dry

MANUFACTURER: East Penn Manufacturing Company
ADDRESS: Dekka 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: This product is a dry lead acid storage battery.

PRODUCT USE: Industrial/Commercial electrical storage batteries.

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:

Health	Environmental	Physical
Acute Toxicity – Category 4 Reproductive – Category 1A Carcinogenicity (lead)– Category 1B Carcinogenicity (arsenic)– Category 1A Target Organ Toxicity – Category 2 Specific Target Organ Toxicity (Repeated exposure) – Category 2	Aquatic Chronic – 1 Aquatic Acute - 1	Not Classified

GHS Label: Lead Acid, Dry (without electrolyte)



Signal Word: DANGER !



SAFETY DATA SHEET

BATTERY, DRY

<u>Hazard Statements</u>	<u>Precautionary Statements</u>
<u>Health</u> Harmful if swallowed, inhaled, or in contact with skin. May damage fertility or unborn child if ingested or inhaled. May cause damage to central nervous system, blood and kidney through prolonged or repeated exposure if ingested or inhaled. May cause cancer if ingested or inhaled. May cause harm to breast-fed children. <u>Environmental</u> Very toxic to aquatic life with long lasting effects. <u>Physical</u> Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.	<u>Prevention</u> Do not breath fume/dust/mist/gas/vapor/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Immediately call a Poison Center or doctor/physician. Avoid contact during pregnancy/while nursing. <u>Response</u> IF INGESTED: consult a physician immediately. IF INHALED: remove person to fresh air and keep comfortable breathing. IF ON CLOTHING OR SKIN: remove/take off all contaminated clothing and wash it before reuse. Rinse skin with water/shower. <u>Storage and Disposal</u> Store locked up, in a well-ventilated area. In accordance with local and national regulations. Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/regional/national/international regulations. Keep out of reach of children.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENTS (Chemical/Common Names):</u>	<u>CAS No.:</u>	<u>% by Wt:</u>	<u>EC No.:</u>
Lead and Lead Compounds (inorganic)*	7439-92-1	92	231-100-4
Antimony	7440-36-0	<0.5	231-146-5
Polypropylene	9003-07-0	5-10 (8)	NA
NA – Not applicable/ND – Not determined			

Additional Information: Inorganic lead and lead compounds are the primary components, other ingredients (Sn, Cu, As) may be present at concentrations below the applicable reporting threshold and dependent upon battery type.

* Contains more than 0.1% lead monoxide. Lead Monoxide (CAS: 1317-36-8) is listed as a substance of very high concern (SVHC) under EU REACH regulation annex XIV.

SECTION 4: FIRST AID MEASURES

- EYE CONTACT:** Flush eyes with large amounts of water for at least 15 minutes. Seek immediate medical attention if eye irritation persists.
- SKIN CONTACT:** Wash immediately with soap and water.
- INGESTION:** Consult physician immediately
- INHALATION:** Remove from exposure to fresh air, gargle, wash nose and lips; consult physician.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT: NOT APPLICABLE

FLAMMABLE LIMITS: NOT APPLICABLE

SUITABLE/UNSUITABLE EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water, foam. Do not use water on live electrical circuits.

SPECIAL FIRE-FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:

Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use full protective equipment (bunker gear) and self-contained breathing apparatus.



SAFETY DATA SHEET BATTERY, DRY

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Batteries generate flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat, or open flames.

SPECIFIC HAZARDS IN CASE OF FIRE:

Thermal shock may cause battery case to crack open. Containers may explode when heated.

Hazardous Combustion Products:

Inorganic lead compound is not a combustible material, nor will it explode under conditions of normal use.

Molten metals produce fume, vapor and/or dust that may be toxic and/or respiratory irritants.

To avoid risk of fire, keep sparks and other sources of ignition away from batteries, do not allow simultaneous metallic contact with positive and negative posts.

Additional Information

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

No health effects are expected related to the normal use of this product. If the article is recycled, lead dust or particulate should be vacuumed (using HEPA filter) or wet swept; minimizing fugitive emissions. Do not use compressed air or dry sweep.

ENVIRONMENTAL PRECAUTIONS:

Prevent spilled material from entering sewers and waterways.

SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:

Sweep or shovel spilled material and place in a dry, closed approved container for disposal or recycle. Dispose of any non-recyclable materials in accordance with local, state, provincial or federal regulations.

Additional Information

Lead acid batteries are recyclable. Contact your East Penn representative for recycling information.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:

- Batteries should be stored under roof for protection against adverse weather conditions.
- Keep containers tightly closed when not in use.
- If battery case is broken, avoid contact with internal components.
- Do not handle/store near heat, sparks, or open flames. Keep in a cool, dry, well ventilated area.
- Protect containers from physical damage to avoid leaks and spills.
- Place cardboard between layers of stacked batteries to avoid damage and short circuits.
- Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire.

OTHER PRECAUTIONS (e.g; Incompatibilities):

Keep away from reducing substances, strong oxidizers, extreme heat, and water.

Wash hands after handling.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits (mg/m³)

Ingredients	OSHA PEL	ACGIH	US NIOSH	Quebec PEV	Ontario OEL	EU OEL
Lead, inorganic	0.05	0.05	0.05	0.05	0.05	0.15 (b)
Antimony	0.5	0.5	0.5	0.5	0.5	0.5 (b,c)
Tin	2	2	2			
Copper	1	1	1	1	1 (a)	0.1 (d)
Arsenic	0.01	0.01	0.01			
Polypropylene	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.

(a) As dusts/mists (b) As inhalable aerosol (c) Based on OEL's of Austria, Belgium, Denmark, France, Netherlands, Switzerland, & U.K. (d) Based on OEL of Netherlands



SAFETY DATA SHEET BATTERY, DRY

TWA – 8-Hour Time Weighted Average/ STE – Short Term Exposure / mg/m³ – milligrams per cubic meter of air/ NE – Not Established

ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:

Store and handle in a dry, well ventilated area. Handle batteries cautiously. Ensure that vent caps are secure. Avoid contact with internal components. Wear protective clothing when filling or handling batteries. Charge in areas with adequate ventilation.

HYGIENE PRACTICES:

Wash hands thoroughly before eating, drinking or smoking after handling batteries.

VENTILATION:

General dilution ventilation is acceptable.

RESPIRATORY PROTECTION:

Not required for normal conditions of use. See also special fire-fighting procedures (Section 5).

EYE PROTECTION:

Wear protective glasses with side shields or goggles.

SKIN PROTECTION:

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

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None required under normal use conditions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Industrial/commercial lead acid battery, without electrolyte
ODOR:	Odorless
ODOR THRESHOLD:	NA (Not Applicable)
PHYSICAL STATE:	Lead, solid
pH:	NA
BOILING POINT:	NA
MELTING POINT:	NA
FREEZING POINT:	NA
VAPOR PRESSURE:	NA
VAPOR DENSITY (AIR = 1):	NA
SPECIFIC GRAVITY (H ₂ O = 1):	NA
EVAPORATION RATE (n-BuAc=1):	NA
SOLUBILITY IN WATER:	Insoluble
FLASH POINT:	NA
AUTO-IGNITION TEMPERATURE:	NA
LOWER EXPLOSIVE LIMIT (LEL):	NA
UPPER EXPLOSIVE LIMIT (UEL):	NA
PARTITION COEFFICIENT:	NA
VISCOSITY (poise @ 25° C):	Not Available
DECOMPOSITION TEMPERATURE:	Not Available

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	This product is stable under normal conditions at ambient temperature.
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong bases, strong reducing agents, and strong oxidizers.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Thermal decomposition, such as in a fire, will produce carbon monoxide, carbon dioxide, and numerous small hydrocarbon molecules. Temperatures above the melting point are likely to produce toxic metal fume, vapor or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.
HAZARDOUS POLYMERIZATION:	Will not occur
CONDITIONS TO AVOID:	Prolonged overcharging, sources of ignition

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Lead: Inhalation LD₅₀: Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)
Oral LD₅₀: Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)

Inhalation: Inhalation of dust or fume may cause irritation of upper respiratory tract and lungs



SAFETY DATA SHEET BATTERY, DRY

Ingestion: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead to systemic toxicity and must be treated by a physician.

Skin Contact: Not absorbed through the skin and is not a dermal sensitizer.

Eye Contact: May cause eye irritation.

Medical Conditions Generally Aggravated by Exposure: Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.

Additional Health Data: Heavy metals, including the hazardous ingredients in this product are taken into the body primarily by inhalation and ingestion. Most inhalation problems can be avoided by adequate protection such as ventilation controls and respiratory protection as covered in Section 8. Follow good personal hygiene practices to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, drinking, smoking or leaving the work site. Keep contaminated clothing out of non-contaminated areas, or wear cover clothing when in such areas. Restrict the use and presence of food, tobacco and cosmetics to non-contaminated areas. Work clothes and work equipment used in contaminated areas must remain in designated areas and never taken home nor laundered with personal non-contaminated clothing. Children and pregnant women must be protected from lead exposure. Persons with kidney disease may be at increased risk of kidney failure.

SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):

Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report that abnormal conduction velocities in person with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy, and damage to the blood-forming (hematopoietic) tissues. May damage fertility or unborn child.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE & DEGRADABILITY:

Lead is very persistent in soils and sediments. No data available on biodegradation.

BIO-ACCUMULATIVE POTENTIAL (Including Mobility):

Mobility of metallic lead between ecological compartments is low. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants, but very little bioaccumulation occurs through the food chain. Most studies have included lead compounds, not solid inorganic lead.

AQUATIC TOXICITY (Test Results & Comments):

Lead (metal): 48 hr LC₅₀ (modeled for aquatic invertebrates): < 1mg/L, based on lead bullion

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Lead acid batteries are recyclable when sent to secondary lead smelters. 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 - Not applicable to finished product as manufactured for distribution into commerce.
CN – Not applicable to finished product as manufactured for distribution into commerce.
EWC – Not applicable to finished product as manufactured for distribution into commerce.

Additional Information

– **Recycle** or dispose as allowed by local jurisdiction for the end-of-life characteristics as disposed.

SECTION 14: TRANSPORT INFORMATION

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

Proper Shipping Name Not regulated as a Hazardous Material, Dangerous Goods

AIRCRAFT – ICAO-IATA:

Proper Shipping Name Not regulated as a Hazardous Material, Dangerous Goods

VESSEL – IMO-IMDG:

Proper Shipping Name Not regulated as a Hazardous Material, Dangerous Goods

Additional Information

- Battery, Dry, not subject to Hazardous Material Requirements. Not regulated as a Hazardous Material therefore must not be



SAFETY DATA SHEET BATTERY, DRY

marked with an identification number or hazardous label and is not subject to hazardous shipping paper requirements.
- 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 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

EPA SARA Title III

Section 302 EPCRA Extremely Hazardous Substance (EHS): Lead; Not Applicable

Section 304 CERCLA Hazardous Substance: Lead; Not Applicable

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>
Lead	7439-92-1	92

CERCLA SECTION 311/312 HAZARD CATEGORIES: Section 312 Tier II reporting for non-automotive batteries if lead is present in the quantities of 10,000 lbs. or more.

Section 313 EPCRA Toxic Substance: The finished product contains chemicals subject to the reporting requirements of Section 313 of SARA Title III. Note: The Section 313 reporting requirement does not apply to batteries that are “consumer products”.

<u>Chemical</u>	<u>CAS#</u>
Lead (~ 92% by weight)	7439-92-1

RCRA: Spent Lead Acid Batteries are subject to streamlined handling requirements when managed in compliance with 40 CFR section 266.80 or 40 CFR part 273. If applicable; EPA hazardous waste number D008 (lead).

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:

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.

<u>Chemical</u>	<u>CAS #</u>	<u>% Wt</u>
Arsenic (as arsenic oxides)	7440-38-2	<0.1
Lead	7439-92-1	92

California Consumer Product Volatile Organic Compound Emissions

This Product is not regulated as a Consumer Product for purposes of CARB/OTC VOC Regulations, as-sold for the intended purpose and into the Industrial/Commercial supply chain.

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

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:



SAFETY DATA SHEET BATTERY, DRY

Chemical
Lead

CAS #
7439-92-1

% Wt
92

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.

REACH: Contains more than 0.1% lead monoxide. Lead Monoxide (CAS: 1317-36-8) is listed as a substance of very high concern (SVHC) under EU REACH regulation annex XIV.

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

R-Phrases
23/25

S-Phrases
1/2, 20/21, S28

SECTION 16: OTHER INFORMATION

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: 13 May 2015

DISCLAIMER:

This Safety Data Sheet is based upon information and sources available at the time of preparation or revision date. Information in the SDS was obtained from sources which we believe are reliable, but are beyond our direct supervision or control. We make no Warranty of Merchantability, Fitness for any particular purpose or any other Warranty, Expressed or Implied, with respect to such information and we assume no liability resulting from its use. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the obligation of each user of this product to determine the suitability of this product and comply with the requirements of all applicable laws regarding use and disposal of this product. For additional information concerning East Penn Manufacturing Co. products or questions concerning the contents of this SDS please contact your East Penn representative.