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 of the chemical and restrictions on use

Recommended use Electric storage battery.

Restrictions on use Not available.

Details of manufacturer or importer

		Supplier Identification:
Manufacturer		
Manufacturer/Supplier	East Penn Manufacturing Company, Inc.	Terra Cat, Terra Industrial New Zealand Ltd.
Address	102 Deka Road, Lyon Station PA 19536	16 Branston Street
Telephone number	(610) 682-6361	P.O. Box 16-168
Contact person	East Penn EHS Department	Christchurch 8441 New Zealand
Emergency telephone number	USA/Canada: CHEMTREC (800) 424-9300, Outside USA 1 (703) 527-3887 Available 24/7	
E-mail	contactus@eastpenn-deka.com	

2. Hazard(s) identification

Classification of the hazardous chemical

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 following single exposure	Category 1 (respiratory system)
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity following 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

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion | Health hazard | Exclamation mark | Environment

Signal word Danger

Hazard statement(s) Harmful if swallowed. Causes severe skin burns and eye damage. Harmful if inhaled. May cause respiratory irritation. 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. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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/vapours. 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. 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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position 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 CENTRE or doctor/physician. 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.

Supplemental information In use, may form flammable/explosive vapour-air mixture.

Other hazards which do not result in classification 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

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
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.

4. First-aid measures

Description of necessary first aid measures

Inhalation Exposure to contents of an open or damaged battery: Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device. 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. Chemical burns must be treated by a physician. Get medical attention if irritation develops and persists.

Eye contact Exposure to contents of an open or damaged battery: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. 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 and give large amounts of milk or water to people not unconscious. Rinse mouth thoroughly with water. DO NOT induce vomiting because of danger of aspirating liquid into lungs. Get medical attention immediately.

Personal protection for first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure 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: May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Prolonged contact causes serious eye and tissue damage. May cause serious chemical burns to the skin. May cause burns in mucous membranes, throat, oesophagus and stomach.
Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

Medical attention and special treatment Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

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. Like any sealed container, battery cells may rupture when exposed to excessive heat; this could result in the release of corrosive and flammable materials.

Special protective equipment and precautions for fire fighters 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.

Hazchem code 2R

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

For non-emergency personnel In the event of damage resulting in a leak of exposed materials, avoid contact with contents of an open or damaged cell or battery. Avoid contact with skin.

For emergency responders Keep unnecessary personnel away.

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

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.

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.

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 and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.05 mg/m3	Dust and fume.

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.15 mg/m3	Dust and fume.

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	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.05 mg/m3
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.15 mg/m3

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.1 mg/m3	Inhalable fraction.

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling Time	Notes
Lead and lead compounds (inorganic) (CAS 7439-92-1)	400 µg/l	Blei	Blood	*	
	300 µg/l	Blei	Blood	*	This BAT is for women less than 45 years old.

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

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.

Control banding approach None known.

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

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection	None under normal conditions. Leak from a damaged or opened battery: Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	None under normal conditions. Leak from a damaged or opened battery: Wear appropriate chemical resistant gloves.
Other	None under normal conditions. Leak from a damaged or opened battery: Wear suitable protective 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.
Hygiene measures	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.
Colour	Not available.
Odour	Odourless.
Odour threshold	Not available.
pH	< 1
Melting point/freezing point	Not available.
Initial boiling point and boiling range	112.8 - 115.6 °C (235 - 240 °F) (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)
Vapour pressure	10 mm Hg
Vapour 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 physical and chemical parameters	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

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 possible routes of exposure

Inhalation	Exposure to contents of an open or damaged battery: Harmful if inhaled. Causes severe 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: Harmful if swallowed. Causes digestive tract burns.
Symptoms related to exposure	Exposure to contents of an open or damaged battery: Dust may irritate the eyes and the respiratory system.
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/irritation	Exposure to contents of an open or damaged battery: Causes serious eye damage.
Respiratory or skin sensitisation	
Respiratory sensitisation	No data available.
Skin sensitisation	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.

ACGIH Carcinogens

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	A2 Suspected human carcinogen.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.

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.

Reproductive toxicity	None under normal conditions. Exposure to contents of an open or damaged battery: May damage fertility or the unborn child. May cause harm to breastfed babies.
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).
Specific target organ toxicity - repeated exposure	None under normal conditions. Exposure to contents of an open or damaged battery: Causes damage to organs through prolonged or repeated exposure: Liver. Kidneys. Central nervous system. Respiratory system.
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.
Other information	Causes digestive tract burns.

12. Ecological information

Ecotoxicity	None under normal conditions. The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. 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 Lead in massive forms is not mobile in the environment.

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

Other adverse effects None known.

13. Disposal considerations

Disposal methods Recycle the batteries, as the primary disposal method. Neutralize electrolyte/sulfuric acid. Avoid discharge into water courses or onto the ground. Dispose of this material and its container to hazardous or special waste collection point. Dispose of in accordance with local regulations. Return lead-acid batteries to distributor, manufacturer or lead smelter for recycling.

Residual waste 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

ADG

- **UN number** 2794
- **UN proper shipping name** BATTERIES, WET, FILLED WITH ACID, electric storage
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** -
- **Environmental hazards** No
- **Hazchem code** 2R
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

RID

- **UN number** 2794
- **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** No
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

IATA

- **UN number** 2794
- **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** 2794
- **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

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (25/05/2018). No poison schedule number allocated.

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

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

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

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

Australia Medicines & Poisons Appendix F

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

Australia Medicines & Poisons Appendix G

Antimony (CAS 7440-36-0)

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Antimony (CAS 7440-36-0)

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

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

Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

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

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Antimony (CAS 7440-36-0)	10 TONNES/YR Threshold Category: 1
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	10 TONNES/YR Threshold Category: 1
Lead and lead compounds (inorganic) (CAS 7439-92-1)	10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	> 1000000 TONNES See the regulation for additional information.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	100000 - 999999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Lead and lead compounds (inorganic) (CAS 7439-92-1)	2000 TONNES/YR Threshold Category: 2B

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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

Issue date	04-March-2020
Revision date	-

Key abbreviations or acronyms used

LD50: Lethal Dose 50%.
LC50: Lethal Concentration 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.