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(Material Safety Data Sheet)

SECTION I

MANUFACTURER'S NAME: Sealed Performance Batteries (SPB)
ADDRESS: 1 Ant Road, Yatala, QLD, 4207, Australia
INFORMATION: (07) 3386 1102
EMERGENCIES - SPB 1300 001 772; QLD Poisons Hotline 13 11 26

TRADE NAME: Storage Battery, Wet
SYNONYMS: Lead/Acid Battery
CHEMICAL FAMILY: Liquid content - sulfuric acid
VOL/WGT: Varies with model

PRODUCT DESCRIPTION/USE: Electric Storage Battery

SECTION II
HAZARDS IDENTIFICATION

A. HAZARD CLASSIFICATION
: Acute toxicity Category 4 (inhalation)
: Skin corrosion/irritation Category 1
: Serious eye damage/eye irritation Category 1
: Carcinogenicity Category 1B
: Germ cell mutagenicity Category 2
: Specific target organ toxicity – single exposure Category 1
: Specific target organ toxicity – repeated exposure Category 1

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GHS Classification:

Health Hazards	Physical Hazards	Environmental Hazards
Acute Toxicity – Not listed (NL) Eye Corrosion – Corrosive* Skin Corrosion – Corrosive* Skin Sensitization – NL Mutagenicity/Carcinogenicity – NL Reproductive/Developmental – NL Target Organ Toxicity (Repeated) – NL	NFPA – Flammable gas, hydrogen (during charging) CN - NL EU - NL	Aquatic Toxicity – NL

***as sulfuric acid**

B. GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAMS:

SIGNAL WORD : DANGER

HAZARD STATEMENTS

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

H332 Harmful if inhaled

H341 Suspected of causing genetic defects

H350 May cause cancer

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENTS

PREVENTION

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

P264 Wash ... thoroughly after handling

P270 Do not eat, drink or smoke when using this product

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

RESPONSE

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P307+P311 IF exposed: Call a POISON CENTER or doctor/physician.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P310 Immediately call a POISON CENTER or doctor/physician.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P321 Specific treatment (see ... on this label).

P363 Wash contaminated clothing before reuse.

STORAGE

P405 Store locked up.

DISPOSAL

P501 Dispose of contents/container in accordance with local / regional/national regulations

C. OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION

(e.g. Dust explosion hazards)

: NFPA/HMIS Rating

Health=3, Flammability=0, Instability=1

(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

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SECTION III
COMPOSITION & INFORMATION ON INGREDIENTS

CAS #	COMMON NAME	WT%	TLV mg/m^3 ACGIH	PEL mg/m^3 OSHA	OTHER in mg/m^3
7439-92-1	Lead	50~60	0.05	0.05	MSHA - air 0.15 TWA
7664-93-9	Sulfuric acid	12~18	1	1	ACGIH STEL 3
7732-18-5	Water	22~28	None	None	None
Mixture	Polypropylene/polyethylene	Balance	Not Est.	Not Est.	Not Est.

SECTION IV
FIRST-AID MEASURES

Skin: Flush the exposed skin with large amounts of water for 15 minutes.
Remove contaminated clothing. Seek medical attention.
Eyes: Force eyes open and rinse with clean, cool, running water for 15 minutes. Do not use eye drops or other medication unless advised to do so by a doctor. Seek medical attention immediately after rinsing.
Inhalation: Remove from exposure. Seek medical attention.
Ingestion: Do not induce vomiting. If conscious, drink large quantities of milk or water. Follow with milk of magnesia, beaten egg, egg whites or vegetable oil. Seek medical attention immediately.

SECTION V
FIRE-FIGHTING MEASURES

Extinguishing Media: Class ABC extinguisher, carbon dioxide, foam, halon, water spray.
Special Fire Fighting Procedures: Cool exterior of battery if exposed to fire to prevent rupture.
Acid mists and vapors in a fire are corrosive. Wear protective clothing and use self-contained breathing apparatus (SCBA).
Unusual Fire and Explosion Hazards:

- Hydrogen and oxygen gases are produced during normal battery operation and charging. These gases escape through the battery vents and may form an explosive atmosphere around the battery if

- Ventilation is poor. Avoid open flame, sparks and other ignition sources in areas where batteries are used or stored.
- Sulfuric acid is an oxidizer and can ignite combustibles upon contact.

Hazardous Combustion Products: Acid mists and vapors, toxic fumes from burning plastic.

HMIS Codes: Not determined
NFPA Codes: H = 3 F = 0 R = 2 (Sulfuric acid component only**)**

SECTION VI
ACCIDENTAL RELEASE OF MATERIAL

Spill and Leak Procedures:
Small spill: Neutralize the spill with baking soda, household ammonia and/or water. Rinse clean.
Large spill: Remove combustible materials and all sources of ignition. Contain spill by dinking with soda ash (sodium carbonate) or quicklime (calcium oxide). Cover spill with neutralizing agent such as soda ash or quicklime. Mix well. When mixture is neutral collect the residue in a suitable container and dispose of per local, state and federal waste regulations. Wear acid resistant boots, face shield, chemical splash goggles, and acid resistant gloves. Do not release unneutralized acid.
Heated. Combustion can produce carbon dioxide and carbon monoxide. Will release an explosive hydrogen/oxygen gas mixture. Oxides of lead, lead and/or lead compounds may be released. Sulfuric acid may release sulfur dioxide and/or sulfur trioxide.
Hazardous Polymerization: Will not occur
Hazardous Polymerization - Conditions to Avoid: Not applicable

SECTION VII
HANDLING AND STORAGE

Storage Temperature:
Min: -20°F (-28°C) for fully charged batteries. 20°F (-6°C) for completely discharged batteries.
Max: 80°F (26°C) for low shelf discharge but up to 100°F (38°C) is safe.
Shelf Life: Not determined.
Special Sensitivity: Avoid direct conductive connection across positive and negative terminals to prevent short circuit.

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Storage Precautions: Batteries must be kept in an upright position away from ignition sources. Stack batteries so as to prevent accidental contact between terminal and/or other damage to terminals or containers. Whenever feasible, store on shipping pallet or rack. Do not stack loaded pallets or racks on top of other batteries. Store batteries in cool, well-ventilated location. Keep a supply of neutralizing agent in or near the storage area for emergency use. Avoid storage in areas exposed to heat or solar buildup. When batteries are completely discharged, the electrolyte will freeze when stored below 20°F. Fully charged batteries may be stored at temperatures as low as -20°F.

Handling Precautions : Use a battery carrier to lift battery or place hands at opposite corners to avoid spilling acid through the vents. Avoid contact with internal components of batteries. Do not tilt batteries to an angle greater than 45 degrees. Do not smoke when working near a battery.

SECTION VIII
EXPOSURE CONTROLS

Eye Protection : Chemical splash goggles or a full-face shield with safety glasses.

Skin Protection: Acid resistant clothing with rubber/neoprene boots for major spill clean up.

Respiratory Protection: Use NIOSH approved respiratory protection when concentrations exceed exposure guidelines.

Ventilation: Must be provided when charging in an enclosed area (29 CFR 1910.178 (g) and .305 (j)(7).

Personal Protective Equipment: Lab apron, acid resistant steel-toed boots and protective clothing.

Engineering Controls: Local/building/fire codes may require explosion proof fans and equipment.

Workplace/Hygienic Practices: Upon skin contact, wash thoroughly with soap and water.

Keep work areas clean.

Protective Gloves: Acid resistant gloves such as rubber, neoprene, vinyl coated, PVC.

SECTION IX
PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not applicable			Melting Point: >300°F/149°C for case
Vapor Pressure at: Not applicable			Specific Gravity: 1.280 at 77°F/25°C (electrolyte)
Solubility in Water: miscible (sulfuric acid)			pH: < 1.0 (dilute sulfuric acid)
Appearance: A manufactured article cased in plastic with a sealed case, terminals and flame arrestor vent caps. Case color varies. Product is essentially odorless.			
Flash Point:	Not applicable	Flammable Limits: (Hydrogen Gas) 4.1 % LEL, 74.2% UEL	
Auto ignition Temperature: Not applicable		Fire Point: Not applicable	

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SECTION X
STABILITY AND REACTIVITY

Stable: Yes

Stability - Conditions to Avoid: Use only approved charging methods. Avoid overcharging. Avoid short-circuiting. Avoid sparks and other ignition sources. Keep away from oxidizing and reducing materials. Do not open, break or melt the casing.

Incompatible Materials: Heat, open flames, sparks, strong oxidizing or reducing agents.

Hazardous Decomposition Products: Can emit highly toxic fumes when heated. Combustion can produce carbon dioxide and carbon monoxide. Will release an explosive hydrogen/oxygen gas mixture. Oxides of lead, lead and/or lead compounds may be released. Sulfuric acid may release sulfur dioxide and/or sulfur trioxide.

Hazardous Polymerization: Will not occur

Hazardous Polymerization - Conditions to Avoid: Not applicable

SECTION XI
TOXICOLOGY INFORMATION

Toxicology Data: Wet storage batteries are sealed articles. Exposure to lead, acid and lead contaminated acid is not anticipated during normal storage, handling and intended use or maintenance of the battery. Battery recycling personnel should carefully follow established employer protocols when processing batteries and battery components.

Eye Effects:

Sulfuric Acid - Severe eye irritant

Skin Effects:

Sulfuric Acid - Extremely irritating, corrosive, and toxic to tissue, resulting in rapid destruction of tissue, causing severe burns. If much skin is involved, exposure is accompanied by shock, collapse and symptoms similar to those seen in severe burns. Repeated contact with dilute solutions can cause dermatitis.

Ingestion Effects:

* Lead - Poison by ingestion in large dosages and with prolonged exposure leading to the same effects as seen in exposure by inhalation. Adults absorb 5-15% of ingested lead and retain less than 5%. Children absorb about 50% and retain about 30%.
* Sulfuric Acid - Moderately toxic by ingestion.

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Inhalation Effects:

* Lead - For industry, inhalation is much more important than is ingestion. Systemic effects include loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, flaccid paralysis without anesthesia, hallucinations and distorted perceptions, muscle weakness, gastritis and liver changes. Major organ systems affected are the nervous system, blood system and kidneys. Experimental evidence suggests that blood levels of lead below 10 μg/dL can lower the IQ scores of children. Low levels of lead impair neurotransmission and immune system function and may increase systolic blood pressure. Reversible kidney damage can occur from acute exposure. Chronic exposure can lead to irreversible vascular sclerosis, tubular cell atrophy, interstitial fibrosis, and glomerular sclerosis. Very heavy intoxication can sometimes be detected by formation of a dark line on the gum margins.
* Sulfuric Acid - Experimental poison by inhalation. Repeated or prolonged inhalation of sulfuric acid mist can cause inflammation of the upper respiratory tract, leading to chronic bronchitis. Severe exposure may cause chemical pneumonitis. Erosion of tooth enamel due to strong acid fume exposure has been observed in industry. Workers exposed to low concentrations of the vapors gradually lose their sensitivity to its irritating action.

Carcinogenicity:

CAS #	Name	OSHA Listed	NTP Listed	IARC
7439-92-1	Lead	Yes	No	2B, Human Limited Evidence
7664-93-9	Sulfuric acid*	Yes	No	1, Human Sufficient Evidence

* Occupational exposures to strong-acid mists containing sulfuric acid have been associated with several respiratory tract cancers. However, there is no animal data supporting the carcinogenicity of sulfuric acid.

Sulfuric acid has been found to be non-mutagenic, and in two studies of workers employed in lead acid battery manufacture, no association between sulfuric acid mist exposure and respiratory tract cancers was observed.

Mutagenicity:

Lead - Human mutation data reported.

Reproductive Effects:

* Lead - Severe toxicity can cause sterility, abortion, and neonatal mortality and morbidity. Experimental teratogen. Experimental reproductive effects. Pathological lesions have been found on male gonads.
* Sulfuric Acid - Experimental teratogen.

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SECTION XII
ECOLOGICAL INFORMATION

Ecotoxicological Information: Not applicable.
Distribution: Not determined.
Chemical Fate Information: Not determined.
Water Endangering Class (WGK): Not applicable

SECTION XIII
DISPOSAL CONSIDERATIONS

RCRA Hazard Class: D002

Waste Disposal Method: Wet storage batteries are recyclable and should be turned over to a licensed battery recycler. Do not incinerate.
Sulfuric acid: Neutralize as for a spill; collect residue and place in suitable container; dispose as hazardous waste in accordance with local, state and federal regulations. Do not flush lead contaminated acid into the sewer.

SECTION XIV
TRANSPORT INFORMATION

Canadian TDG Information
TDG Shipping Name: Batteries, Wet Filled with Acid
Hazard Class: 8
ID Number: UN 2794
Packing Group : not assigned
Special Label or Marking Requirements: Corrosive

U.S DOT Information
Proper Shipping Name: Batteries, Wet Filled with Acid
Hazard Class: 8
ID Number: UN 2794
Packing Group : not assigned
RQ: N.A.

Special Label or Marking Requirements: Corrosive

International Air Information (IATA Classification)
Proper Shipping Name: Batteries, Wet Filled with Acid
Hazard Class: 8
ID Number: UN 2794
Packing Group : not assigned
Special Label or Marking Requirements: Corrosive

International Ocean Information (IMO Classification)
Proper Shipping Name: Batteries, Wet Filled with Acid
Hazard Class: 8
ID Number: UN 2794
Packing Group : not assigned
Marine Pollutant: No
Special Label or Marking Requirements: Corrosive

SECTION XV
REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the EPA TSCA Inventory

EPA Hazard Categories:
Immediate (acute) health hazard: Yes
Delayed (chronic) health hazard: Yes
Fire hazard: No
Sudden release of pressure hazard: No
Reactive hazard: No

SARA 311/312: Extremely Hazardous Substances

CAS #	Name	RQ	TPQ
7664-93-9	Sulfuric acid	1000 lbs	1000 lbs

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CERCLA Section 103: Hazardous Substances List

CAS #	Name	Percent	RQ
7439-92-1	Lead	50~60%	10 lbs
7664-93-9	Sulfuric acid	12~18%	1000 lbs

Great Lakes Persistent Toxics - Metals:

CAS #	Name	Percent
7439-92-1	Lead	50~60%

Volatile Organic Compound (VOC): Not applicable

WHMIS: Controlled as a manufactured article

Canadian Environmental Protection Act (CEPA):

CAS #	Name	Schedule
7439-92-1	Lead	I and III part II

California Proposition 65 - Reproductive Toxicants

CAS #	Name	Percent
7439-92-1	Lead	50~60%

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. Wash hands after handling.

New Jersey Right-to-Know Hazardous Substances

CAS #	Name	Percent
7439-92-1	Lead	50~60%
7664-93-9	Sulfuric acid	12~18%

Massachusetts Substance List

CAS #	Name	Percent
7439-92-1	Lead	50~60%
7664-93-9	Sulfuric acid	12~18%

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Pennsylvania Hazardous Substances

CAS #	Name	Percent
7439-92-1	Lead	50~60%
7664-93-9	Sulfuric acid	12~18%

Ontario Designated Substance

CAS #	Name	Percent
7439-92-1	Lead	50~60%

EINECS/EU: Listed (EINECS No. 231-100-4(LEAD),231-639-5(Sulfuric ACID)
ENCS/JAPAN: Listed
AICS/AUSTRALIA: Listed
DSL/CANADA: Listed
IECSC/CHINA: Listed
PICCS/PHILIPPINES: Listed
KECI/S.KOREA: Listed (KE-21887(LEAD) , KE-32570(Sulfuric acid)

SECTION XVI
OTHER INFORMATION

Label Information:
DANGER! Explosive Gases: Always shield eyes and face from battery. Cigarettes, flames, sparks could cause battery to explode. Do not charge or use booster cables or adjust post connections without proper instruction and training.

POISON! Causes severe burns: Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately. Do not tip. Keep out of reach of children.

SOURCE OF DATA :

Guideline for Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
EC-ECB, International uniform Chemical information Database (IUCLID)
NITE Chemical Risk Information Platform (CHRIP)
Hazardous Substance Data Bank (HSDB)
International Chemical Safety Cards (ICSC)
Chemical Hazards Response Information System (CHRIS)
Chemical Information Supporting System
Registry of Toxic Effects of Chemical Substances (RTECS)
NFPA 704 Standard System for the identification of the hazards of materials for Emergency Response

THE DATE OF PREPARATION OF THE MSDS : 28 June 2002
THE NUMBER OF TIMES REVISED : 9
THE DATE OF PREPARATION OF THE LATEST REVISION : 01 Sep 2021

End of MSDS