

SAFETY DATA SHEET

SEALED LEAD-ACID BATTERY

Infosafe No.: MU177
ISSUED Date : 01/01/2017
ISSUED by: OLYMPIC BATTERIES PTY LTD

1. Identification

GHS Product Identifier

SEALED LEAD-ACID BATTERY

Company name

OLYMPIC BATTERIES PTY LTD

Address

Cnr of Grand Junction and South Roads Wingfield
SA 5013 AUSTRALIA

Telephone/Fax Number

Tel: (08) - 8262 4188

Fax: (08) - 8262 7477

Emergency phone number

61 434 143 594

Additional Information

TRADEMARK: AUS CELL NO. 1

WEBSITE: www.olympicbatteries.com.au

2. Hazard Identification

GHS classification of the substance/mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

Signal Word (s)

DANGER

Hazard Statement (s)

H220 Extremely flammable gas (hydrogen)

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s)

Health hazard, Exclamation mark, Corrosion, Environment

**Precautionary statement – Prevention**

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

P210 Keep away from heat/sparks/open flames/hot surfaces. (No smoking)

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

P264 Wash thoroughly after handling.

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

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

P273 Avoid release to the environment.

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

Precautionary statement – Response

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

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

P304+ P340 IF INHALED: Remove 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.

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

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment is advised - see first aid instructions.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

Precautionary statement – Storage

P405 Store locked up.

P403 Store in a well-ventilated place.

Precautionary statement – Disposal

P501 Dispose of contents/container in accordance with relevant regulations.

Other Information

Other hazards

The hazards provided relate the battery contents. However, as long as using in a range of conditions specified in the manufacturer's specifications, Valve Regulated lead acid batteries are articles that does not change their shape and and nature from the beginning to the end. This identification is described assuming that when handling these products, if the contents are spilled out by dropping damage etc. from them, if the used batteries are recycled and if the general user user touches the lead terminals.

3. Composition/information on ingredients

Information on Composition

Inorganic compounds of:

Ingredient : Lead

CAS Number : 7439-92-1

% by Wt. : 60-68

Ingredient : Tin

CAS Number : 7440-31-5

% by Wt. : 0.28

Ingredient : Calcium

CAS Number : 7440-70-2

% by Wt. : 0.03

Electrolyte (hydrogel):

Ingredient : Sulfuric Acid (Diluted sulfuric acid in solid state, percentage acid: 38.5%)

CAS Number : 7664-93-9

% by Wt. : 17-24

Case Material:

Ingredient : Acrylonitrile Butadiene Styrene or

CAS Number : 9003-56-9

% by Wt. : 4-12

Ingredient : Polypropylene

CAS Number : 9003-07-0

Ingredient : Separator:

CAS Number : N/A

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% by Wt. : N/A

Note: Explosion proof casing (When there is an open fire during charging, the battery should not ignite or detonate).

Note:
Inorganic lead and electrolyte (water and sulfuric acid solution) are the primary components of every battery, other ingredients may be present dependent upon battery type. Polypropylene is the principal case material for automotive and commercial batteries.

Ingredients

Name	CAS	Proportion
Lead	7439-92-1	60-68 %wt
Calcium	7440-70-2	0.03 %wt
Acrylonitrile Butadiene Styrene	9003-56-9	4-12 %wt
POLYPROPYLENE	9003-07-0	4-12 %wt

4. First-aid measures

First Aid Measures

Take proper precautions to ensure your own health and safety before attempting to rescue a victim and provide first aid.

Inhalation

Electrolyte: Remove to fresh air immediately. If breathing is difficult, give oxygen.

Lead compounds: Remove from exposure, gargle, wash nose and lips; consult physician

Ingestion

Electrolyte: Give large quantities of water; do not induce vomiting; consult physician.

Lead compounds: Consult physician immediately

Skin

Electrolyte: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes.

Lead compounds: Wash immediately with soap and water.

Eye contact

Electrolyte and Lead compounds: Flush immediately with large amounts of water for at least 15 minutes; consult physician immediately

5. Fire-fighting measures

Suitable Extinguishing Media

CO₂; foam; dry chemical

Hazards from Combustion Products

In operation, batteries generate and release flammable hydrogen gas. They must always be assumed to contain this gas which, if ignited by burning cigarette, naked flame or spark, may cause battery explosion with dispersion of casing fragments and corrosive liquid electrolyte. Carefully follow manufacturer's instructions for installation and service. Keep away all sources of gas ignition and do not allow metallic articles to simultaneously contact the negative and positive terminals of a battery.

Specific Methods

Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but, note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

6. Accidental release measures

Emergency Procedures

Stop flow of material, contain/absorb small spills with dry sand, earth, and vermiculite. Do not use combustible materials. If possible, carefully neutralize spilled electrolyte with soda ash, sodium bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Do not allow discharge of un-neutralized acid to sewer. Neutralized acid must be managed in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA.

7. Handling and storage

Precautions for Safe Handling

Single batteries pose no risk of electric shock but there may be increasing risk of electric shock from strings of connected batteries exceeding three 12-volt units. No hazards under normal usage as the sulfuric acid is immobilized in a gel structure)

Conditions for safe storage, including any incompatibilities

Store batteries under roof in cool, dry, well-ventilated areas that are separated from incompatible materials and from activities which may create flames, sparks, or heat. Keep away from metallic objects that could bridge the terminals on a battery and create a dangerous short-circuit

Other Information

Charging:

There is a possible risk of electric shock from charging equipment and from strings of series connected batteries, whether or not being charged. Shut-off power to chargers whenever not in use and before detachment of any circuit connections. Batteries being charged will generate and release flammable hydrogen gas. Charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

8. Exposure controls/personal protection

Occupational exposure limit values

Inorganic forms of:

Ingredient: Lead

Occupational Exposure Limits (mg/m³)

US OSHA : 0.05

US ACGIH : 0.05

US NIOSH : 0.05

Quebec PEV : 0.05

Ontario OEL : 0.05

EU OEL : 0.15(a)

Ingredient: Tin

Occupational Exposure Limits (mg/m³)

US OSHA : 2

US ACGIH : 2

US NIOSH : 2

Quebec PEV : 2

Ontario OEL : 2

EU OEL : 2(b)

Ingredient: Calcium

Occupational Exposure Limits (mg/m³)

US OSHA : N/A

US ACGIH : N/A

US NIOSH : N/A

Quebec PEV : N/A

Ontario OEL : N/A

EU OEL : N/A

Ingredient: Electrolyte (hydrogel: Sulfuric Acid (Diluted sulfuric acid in solid state, percentage acid: 38.5%))

Occupational Exposure Limits (mg/m³)

US OSHA : 1

US ACGIH : 0.2

US NIOSH : 1

Quebec PEV : 1

Ontario OEL : 0.2

EU OEL : 0.05(c)

Ingredient: Silicon Dioxide

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Occupational Exposure Limits (mg/m³)

US OSHA : 80 mg/m³/%SiO₂(d)

US ACGIH : N/A

US NIOSH : 6

Quebec PEV : 6(c)

Ontario OEL : 10(c)

EU OEL : 0.1(e)

NOTES:

(a) as inhalable aerosol based on OEL for Belgium

(b) Thoracic fraction

(c) as silica gel

(e) based on OEL for Belgium & Denmark

N/A not applicable

Appropriate engineering controls

(Ventilation):

Store and handle in well-ventilated area. If mechanical ventilation is used, components must be acid-resistant.

Handle batteries cautiously. Make certain vent caps are on securely. If battery case is damaged, avoid bodily contact with internal components. Wear protective clothing, eye and face protection, when charging or handling batteries.

Respiratory Protection

(NIOSH/MSHA approved):

None required under normal conditions. When concentrations of sulfuric acid mist are known to exceed PEL, use NIOSH or MSHA-approved respiratory protection..

Eye Protection

None required under normal conditions. If battery case is damaged, chemical goggles or face shield

Personal Protective Equipment

Other Protection:

Under severe exposure or emergency conditions, wear acid-resistant clothing, gloves, and boots.

In areas where water and sulfuric acid solutions are handled in concentrations greater than 1%, emergency eyewash stations and showers should be provided, with unlimited water supply.

Body Protection

Skin Protection:

None required under normal conditions. If battery case is damaged, rubber or plastic acid-resistant gloves with elbow-length gauntlet.

Hygiene Measures

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

9. Physical and chemical properties

Properties	Description	Properties	Description
Form	Solid	Appearance	Electrolyte is a white translucent gel; no apparent odor. A battery is a manufactured article.
Boiling Point	226°F - 237°F @ 760 mm Hg	Solubility in Water	100%
Specific Gravity	1.2185 to 1.3028 @ 77°F (H ₂ O=1)	pH	Less than 1
Vapour Pressure	13.5 to 17.8 mm Hg	Vapour Density (Air=1)	Greater than 1
Evaporation Rate	Less Than 1	Viscosity	Not applicable
Volatile Component	Not applicable @ 70°F	Partition Coefficient: n-octanol/water	Not Applicable
Flash Point	Not Applicable	Flammable Limits - Lower	4.1% (hydrogen gas in air)
Flammable Limits - Upper	74.2%		

Other Information

Point of Solidification: -69°C

Note: The properties above reflect 30-40% Sulfuric acid

10. Stability and reactivity

Chemical Stability

Stable

Deep Cycle Batteries can be used safely and effectively in a "Stand-By" mode, as well as within its Deep Cycle attributes

Conditions to Avoid

Prolonged overcharge at high current; sources of ignition.

Incompatible materials

Incompatibilities:

Electrolyte (Water and Sulfuric Acid Solution): Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers, and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas. No further concern for mechanical impact.

Lead compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.

Hazardous Decomposition Products

Electrolyte: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, hydrogen sulfide.

Lead compounds: 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

11. Toxicological Information

Toxicology Information

Routes of Entry:

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Electrolyte: Harmful by all routes of entry.

Lead compounds: Hazardous exposure can occur only when product is heated above the melting point, oxidized or otherwise processed or damaged to create dust, vapor, or fume.

Synergistic Products:

Electrolyte: No known synergistic products

Lead compounds: Synergistic effects have been noted with heavy metals (arsenic, cadmium, mercury), N-nitroso-N-(hydroxyethyl)ethylamine, N-(4-fluoro-4-biphenyl)acetamide, 2-(nitrosoethylamine)ethanol, and benzo[a]pyrene.

Tin: Affects the metabolism of various essential minerals such as zinc, copper, and iron

Additional Information:

Medical Conditions Generally Aggravated by Exposure:

Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions. Contact of electrolyte (water and sulfuric acid solution) with skin may aggravate skin diseases such as eczema and contact dermatitis. Contact of electrolyte (water and sulfuric acid solution) with eyes may damage cornea and/or cause blindness. Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.

Acute Toxicity - Oral

LD 50:

Electrolyte: rat: 2140 mg/kg

Elemental lead: Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)

Acute Toxicity - Inhalation

LD 50:

Electrolyte: LC50 rat: 375 mg/m³; LC50: guinea pig: 510 mg/m³

Elemental Lead: Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)

Ingestion

Electrolyte: May cause severe irritation of mouth, throat, esophagus, and stomach.

Lead compounds: Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity.

Inhalation

Electrolyte: Breathing of sulfuric acid vapors or mists may cause severe respiratory irritation.

Lead compounds: Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs.

Skin

Electrolyte: Severe irritation, burns, and ulceration. Sulfuric acid is not readily absorbed through the skin and is not a dermal sensitizer.

Lead compounds: Not absorbed through the skin and not a dermal sensitizer.

Eye

Electrolyte: Severe irritation, burns, cornea damage, blindness.

Lead compounds: May cause eye irritation.

Health Hazard

Additional Health Data:

All 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 precautions such as ventilation and respiratory protection covered in Section VIII.

Follow good personal hygiene to avoid inhalation and ingestion: wash hands, face, neck and arms thoroughly before eating, 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.

This product is intended for industrial use only and should be isolated from children and their environment.

12. Ecological information

Ecotoxicity

Lead:

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

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Environmental Fate

Lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead.

Acute Toxicity - Fish

Sulfuric acid:

24-hr LC50, freshwater fish (Brachydanio rerio): 82 mg/L

96 hr- LOEC, freshwater fish (Cyprinus carpio): 22 mg/L

13. Disposal considerations

Waste Disposal

US

Spent batteries: Send to secondary lead smelter for recycling.

Electrolyte: Place neutralized slurry into sealed acid resistant containers and dispose of as hazardous waste, as applicable. Large water-diluted spills, after neutralization and testing, should be managed in accordance with approved local, state, and federal requirements. Consult state environmental agency and/or federal EPA

14. Transport information

U.N. Number

2800

UN proper shipping name

BATTERIES, WET, NON-SPILLABLE

Transport hazard class(es)

8

Packing Group

III

EPG Number

8A1

IERG Number

37

UN Number (Air Transport, ICAO)

For air shipments, reference IATA Dangerous Goods Regulations Special Provision A67 and Packing Instruction 872.

IMDG UN No

For shipments by water, reference IMDG Special Provision 238 and Packing Instruction P003.

Other Information

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

Batteries, Wet, Non-Spillable

UN 2800, 8, PG III

Label: "NON-SPILLABLE" or "NON-SPILLABLE BATTERY"

For US, refer to 49 CFR 173.159 for details.

AIRCRAFT - ICAO- IATA:

For air shipments, reference IATA Dangerous Goods Regulations Special Provision A67 and Packing Instruction 872.

VESSEL - IMO-IMDG:

For shipments by water, reference IMDG Special Provision 238 and Packing Instruction P003.

ADDITIONAL INFORMATION:

- Non-Spillable Battery complies with the provisions listed in 49 CFR 173.159. Does not require marking with an identification number or hazardous label and is not subject to hazardous shipping paper requirements.
- Each battery and the outer packaging must be plainly and durably marked "NON-SPILLABLE" or "NON-SPILLABLE BATTERY".
- Batteries must be kept upright at all times and packaged as required to prevent short circuits.

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- Transport may require packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped.

15. Regulatory information

Regulatory information

United States:

EPA SARA Title II

Section 302 EPCRA Extremely Hazardous Substances (EHS):

Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA, with a Threshold Planning Quantity (TPQ) of 1,000 lbs.

EPCRA Section 302 notification is required if 500 lbs or more of sulfuric acid is present at one site (40 CFR 370.10).

An average automotive/commercial battery contains approximately 5 lbs of sulfuric acid. Contact your GNB representative for additional information.

Section 304 CERCLA Hazardous Substances:

Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know Act) is 1,000 lbs. State and local reportable quantities for spilled sulfuric acid may vary.

Section 311/312 Hazard Categorization:

EPCRA Section 312 Tier Two reporting is required for non-automotive batteries if sulfuric acid is present in quantities of 500 lbs or more and/or if lead is present in quantities of 10,000 lbs or more.

Section 313 EPCRA Toxic Substances:

Supplier Notification: This product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of (Title) II of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical : Lead

CAS : 7439-92-1

Percent by Weight : 60-68

Chemical : Sulfuric Acid/Water Solution

CAS : 7664-93-9

Percent by Weight : 17-22

If you distribute this product to other manufacturers in SIC Codes 20 through 39, this information must be provided with the first shipment of each calendar year.

Note: The Section 313 supplier notification requirement does not apply to batteries that are "consumer products".

OSHA: Considered hazardous under Hazard Communication Act (29CFR1910.1200)

RCRA: Spent lead-acid batteries are not regulated as hazardous waste when recycled. Spilled sulfuric acid is a characteristic hazardous waste; EPA hazardous waste number D002 (corrosivity).

CAA: Olympic supports preventative actions concerning ozone depletion in the atmosphere due to emissions of CFC's and other ozone depleting chemicals (ODC's), defined by the USEPA as Class I substances. Pursuant to Section 611 of the Clean Air Act Amendments (CAAA) of 1990, finalized on January 19, 1993, Olympic established a policy to eliminate the use of Class I ODC's.

NFPA Hazard Rating for sulfuric acid:

Flammability (Red) = 0

Health (Blue) = 3

Reactivity (Yellow) = 2

US State Notifications & Warnings: California

Identification : California Proposition 65

Notifications/Warning :

"WARNING: This product contains lead, a chemical known to the State of California to cause cancer, or 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

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cause cancer and reproductive harm.

Batteries also contain other chemicals known to the State of California to cause cancer.

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 to cause reproductive harm:

1. Strong inorganic acid mists including sulfuric acid; CAS #: NA; 18-24% wt
2. Lead -CAS No. 7439-92-1; 71-73% wt.

Identification : Consumer Product Volatile Organic Compound Emissions

Notifications/Warning :

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.

Country/Organization : Canada

Identification : All chemical substances in this product are listed on the CEPA DSL/NDSL or are exempt from list requirements.

Notifications/Warning : This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Refer to the Controlled Products Regulations for product labeling requirements.

Identification : NPRI and Ontario Regulation 127/01

Notifications/Warning : This product contains the following chemicals subject to the reporting requirements of Canada NPRI and/or Ont.

Reg. 127/01:

Chemical : Lead

CAS # : 7439-92-1

%wt : 60-68

Chemical : Sulfuric acid

CAS # : 7664-93-9

%wt : 17-22

Identification : Toxic Substances List

Notifications/Warning : Lead

Country/Organization : EU

Identification : European Inventory of Existing Commercial Chemical Substances (EINECS):

Notifications/Warning : 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.

USA (TSCA)

Each ingredient chemical listed in Section III of this SDS is also listed on the TSCA Registry.

16. Other Information

User Codes

User Title Label	User Codes
Wis Numbers	01353561
Wis Numbers	01991265
Wis Numbers	01991282
Wis Numbers	01991299

Signature of Preparer/Data Service

Olympic Batteries Pty Ltd

Cnr of Grand Junction & South Roadsywingfield SA 5013 Australia

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Other Information

This SDS has been transcribed into Infosafe GHS format from an original, issued by the manufacturer on the date shown. Any disclaimer by the manufacturer may not be included in the transcription.

END OF SDS

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