

Material Safety Data Sheet

Hazardous according to criteria of NOHSC Australia.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: SEALED LEAD BATTERY - CYCLON[®], GENESIS[®], SBS[®], XE[®], ARMASAFE[®], & ODYSSEY[®] RANGES OF BATTERIES

Recommended use: Rechargeable battery.

Supplier: Energys Australia Pty Ltd
ABN: 52 103 740 290
Street Address: 46 Egerton St,
Silverwater NSW 2128
Australia
Telephone: +612 9739-9999
Facsimile: +612 9739-9900

Emergency telephone number: +1 703-527-3887 (Collect calls accepted) Chemtrec – 24hours

2. COMPOSITION/INFORMATION ON INGREDIENTS

Appearance: Battery is sealed.

CHEMICAL ENTITY	CAS NO	PROPORTION
Lead	7439-92-1	45-60%
Lead Oxide	1309-60-0	15-25%
Sulphuric Acid Electrolyte	7664-93-9	15-20%
Other ingredients determined as non hazardous	-	5-10%
		100%

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

3. HAZARDS IDENTIFICATION

The materials contained within the sealed battery are hazardous according to health criteria of NOHSC Australia.

Hazard Category
C Corrosive

R-phrases(s)
R35 R4 1 Causes severe burns.
Risk of serious damage to eyes.

Product name: SEALED LEAD BATTERY - CYCLON[®], GENESIS[®], SBS[®], XE[®], ARMASAFE[®] ODYSSEY RANGES OF BATTERIES

Substance Key: ENE0003

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Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

Poisons Schedule (Aust)/Toxic Substance (NZ): S6

This material is a Schedule Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126; New Zealand 03 474 7000).

Ingestion: Immediately rinse mouth with water. Give water to drink. Do NOT induce vomiting. Seek immediate medical assistance.

Eye contact: Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Skin contact: Immediately wash contaminated skin with plenty of water. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering, or irritation occurs seek medical advice. For skin burns, immediately flood burnt area with plenty of water and cover with a clean, dry dressing. Seek immediate medical advice.

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Seek medical advice if effects persist.

Notes to physician: Treat symptomatically and as for exposure to acidic corrosive substances. Delayed pulmonary oedema may result up to 48 hours after exposure. Can cause corneal burns.

5. FIRE-FIGHTING MEASURES

Specific hazards: May form flammable vapour mixtures with air. Hydrogen and oxygen gases may be released which are flammable gases. The electrolyte reacts with most common metals to liberate hydrogen which can form explosive mixtures with air. Avoid all ignition sources. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment, etc) must be eliminated both in and near the work area. Do NOT smoke.

Fire fighting further advice: Not combustible. However if involved in a fire will emit toxic fumes including those of sulphuric acid fume and hydrogen gas. Fire fighters to wear self-contained breathing apparatus. Heating can cause expansion or decomposition leading to violent rupture of containers.

Suitable extinguishing media: Foam, dry agent (carbon dioxide, dry chemical powder).

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6. ACCIDENTAL RELEASE MEASURES

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and inhalation of mists. Contain - prevent run off into drains and waterways. Use absorbent (sand, soil or other inert material). Neutralise with sodium bicarbonate. Contaminated materials should be placed in acid resistant containers. Wash area down with excess water. Do not allow water to enter containers of acid as violent reaction may occur. If contamination of sewers or waterways has occurred advice the local emergency services.

7. HANDLING AND STORAGE

Storage: Store in a well ventilated area. Store away from organic material and other combustible materials, oxidising agents and foodstuffs. Store away from sources of heat or ignition. Highly reactive towards metals in the presence of moisture liberating hydrogen gas. Keep dry - the electrolyte reacts with water; may lead to container rupture. This battery is a sealed container - do NOT open and avoid damaging the casing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits

No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

However, Exposure Standards for constituents:

	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Sulphuric acid	-	1	-	3
Lead, inorganic dusts & fumes (as Pb)	-	0.15	-	-

As published by the National Occupational Health and Safety Commission (Worksafe Australia).

TWA - the Time-Weighted Average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour work day. According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. Exposure Standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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Engineering measures: Ventilation should meet the requirements of the appropriate Australian Standard/ State and Territory Dangerous Goods Legislation, for the storage or installation of batteries. Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. If inhalation risk exists wear acid mist respirator or air supplied mask. Keep containers closed when not in use.

Personal protection equipment: Avoid all contact to battery electrolyte. Personal protective equipment should be worn wherever there is a risk of coming into contact with the electrolyte. Wear overalls, full face shield, elbow-length acid resistant gloves, splash apron and rubber boots. Available information suggests that gloves made from butyl rubber or PVC gloves should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, a final assessment should be made by the user. Use with adequate ventilation. If inhalation risk exists wear acid mist respirator or air supplied mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: Battery is sealed.

Solubility: Electrolyte is soluble in water, with the evolution of heat.

Specific Gravity (H ₂ O=1)	1.25*	Boiling Point (°C)	108-114*
Vapour Pressure (20 °C)	14.6 mbar*	Melting Point (°C)	N Av N
Flash Point (%)	259 [#]	pH	Av N Av
Autoignition Temp (°C)	580 [#]	Viscosity	N Av
% Volatile by volume	N App 100%*	Evaporation Rate (n-Butyl acetate=1)	
Solubility in water (g/L)			

(Typical values only - consult specification sheet)

N Av = Not available

N App = Not applicable

* for sulphuric acid # for hydrogen gas

10. STABILITY AND REACTIVITY

Stability: Powerful oxidising agent. Hydrogen and oxygen gases are generated while charging. For the electrolyte (sulfuric acid): Can react explosively with organic materials. Can react violently if in contact with water, liberating excessive heat and may cause violent spattering. Highly corrosive to most metals. On contact with metals, may generate hydrogen which forms explosive mixtures with air.

The lead/lead compounds are incompatible with potassium, carbides, sulphides, peroxides, phosphorous, sulfur.

Battery electrolyte (sulphuric acid) is incompatible with combustible materials, strong reducing agents, most metals, carbides, organic materials, chlorates, nitrates, picrates and fulmirates.

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11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Ingestion: Swallowing of the electrolyte can result in nausea, vomiting of blood and eroded tissue; chemical burns of the mouth, throat and abdomen; perforation of gastrointestinal tract.

Eye contact: The electrolyte is a severe eye irritant. Mist will cause irritation. Corrosive to eyes; contact can cause corneal burns. Contamination can result in permanent injury.

Skin contact: Contact of the electrolyte with skin will result in severe irritation. Corrosive to skin - may cause severe skin burns.

Inhalation: Inhalation of mists of the electrolyte can cause mucous membrane and respiratory irritation.

Long Term Effects:

The International Agency for Research on Cancer (IARC) have concluded that occupational exposure to strong inorganic acid mists containing sulphuric acid are carcinogenic to humans, causing cancer of the larynx and to a lesser extent, the lung. No direct link has been established with sulphuric acid, itself, and cancer in humans. Exposure to any mist or aerosol during the use of this product should be avoided and exposure should not exceed the exposure standard. Inorganic acid mists are not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulphuric acid mist.

Acute toxicity / Chronic toxicity

No data available for product, however for sulphuric acid (100%):

Oral LD50 (rat) : 2140 mg/kg.

Inhalation LC50 (rat) : 510 mg/m³/2hours.

Repeated overexposure may lead to chronic conjunctivitis, lung damage and dental erosion.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Sulphuric acid is soluble in water and remains indefinitely in the environment as sulphate.

Large discharges may contribute to the acidification of water and be fatal to aquatic life and soil micro-organisms.

Large discharges may contribute to the acidification of effluent treatment systems and injure sewage treatment organisms.

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13. DISPOSAL CONSIDERATIONS

Refer to State\Territory Land Waste Management Authority. After dilution or neutralisation with sodium bicarbonate, normally suitable for disposal at approved land waste site. Decontamination of containers should be considered. Empty containers should be decontaminated and recycled if possible.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail under Special Provisions 238.

MARINE TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

The materials contained within the sealed battery are hazardous according to health criteria of NOHSC Australia.

Hazard Category

C Corrosive

R-phrases(s)

R35 R4 1

Causes severe burns.
Risk of serious damage to eyes.

S-phrases(s)

S26

S30 S45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Never add water to this product.
In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

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16. OTHER INFORMATION

This material safety data sheet has been prepared by Chemicals Data Services Pty Ltd.

REASON(S) FOR ISSUE First Issue Primary MSDS

DISCLAIMER

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Enersys Australia Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace. If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

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