

Section 1 - Identification of The Material and Supplier

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Chemical nature: Lead, sulfuric acid and other minor ingredients in plastic cases, with terminals.

Trade Name: **EnerGEL, SunGEL, RailGEL, and PowerGEL**

Other Names: This SDS is intended for several ranges of sealed lead-acid type batteries.

Product Code: A variety of codes - see table at the end of this SDS

Product Use: Sealed lead acid batteries for use in standby, starting and solar/remote area and other cycling applications.

Creation Date: **March, 2017**

This version issued: **March, 2017** and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: C, Corrosive. Hazardous according to the criteria of SWA.

Dangerous according to IATA criteria.

SUSMP Classification: None allocated.

DG Classification: Class 8: Corrosive Substances.

UN Number: 2800, BATTERIES, WET, NON-SPILLABLE, electric storage



GHS Signal word: DANGER

Corrosive to metals Category 1

Skin Corrosion Category 1

HAZARD STATEMENT:

H290: May be corrosive to metals.

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation.

PREVENTION

P102: Keep out of reach of children.

P262: Do not get in eyes, on skin, or on clothing.

P281: Use personal protective equipment as required.

RESPONSE

P310: Immediately call a POISON CENTRE or doctor/physician.

P363: Wash contaminated clothing before reuse.

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

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

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.

P308+P313: If exposed or concerned: Get medical advice.

P390: Absorb spillage to prevent material damage.

P370+P378: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires.

STORAGE

P405: Store locked up.

P402+P404: Store in a dry place. Store in a closed container.

DISPOSAL

P501: See Section 13 of this SDS for detailed disposal instructions.

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Emergency Overview

Physical Description & Colour: Batteries of various sizes and weights.

Odour: No odour.

Major Health Hazards: There is no possibility of exposure to lead and other ingredients unless the battery is destroyed. Sulfuric acid mist causes coughing and will burn eyes and skin. Lead is a cumulative poison and is both carcinogenic and mutagenic.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Lead as the metal and its sulfate	15739-80-7	70-75	0.15	not set
Sulfuric acid	7664-93-9	20-30	1	3
Other non hazardous ingredients	secret	to 100	not set	not set

Batteries will generate hydrogen and sulphuric acid mist on overcharge. Hydrogen forms explosive mixtures in air.

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: If irritation occurs, contact a Poisons Information Centre, or call a doctor. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: Seek immediate medical attention. Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Flush contaminated area with lukewarm, gently flowing water for at least 20-30 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). If irritation persists, repeat flushing. Seek medical attention.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Take care not to rinse contaminated water into the unaffected eye or onto face. If irritation persists, repeat flushing. Call a Poisons Information Centre or a doctor urgently. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre. Urgent hospital treatment is likely to be needed. Give activated charcoal if instructed.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Aim to dilute the material with large quantities of water. If practical, contain diluted material and prevent from entering drains and water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

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Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: In the event of a spill or a leak avoid breathing the vapour / fumes and avoid contact with the skin.

Wear protective clothing, acid resistant boots, gloves, face shield and goggles. If SAFE, stop the source of the leak. Evacuate and limit access to area. Remove combustible material and all sources of ignition. No smoking or naked flames. Isolate the spill and dilute with water then neutralize with sodium carbonate or sodium bicarbonate. Advise the Police and Fire Brigade of location, type of product and quantity of spill.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace.

During transport, the batteries are kept in wooden or cardboard / polystyrene packaging. Considerable care should be exercised when handling the batteries due to their weight and the relative fragility of the case. Do not use the terminal posts for handling or lifting the cells or batteries. When supplied, plastic handles should be employed.

Storage: Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Lead sulfate	0.15	not set
Lead	0.15	not set
Sulfuric acid	1	3

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that dusts are minimised.

Eye Protection: If the battery is damaged and acid leaking from it, your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection: Because of the dangerous nature of this product if the battery is damaged and acid leaking from it, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: neoprene or PVC.

Respirator: If there is a significant chance that acid mists are likely to build up in the area where this product is being used, we recommend that you use a suitable protective mask.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Batteries of various sizes and weights.
Odour:	No odour.
Boiling Point:	No data.
Freezing/Melting Point:	No data.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	Not applicable.
Specific Gravity:	1.26-1.30
Water Solubility:	Some, but not all ingredients are soluble.
pH:	No data.

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Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data
Viscosity:	Not applicable.
Autoignition temp:	Not applicable - does not burn.

Section 10 - Stability and Reactivity

Reactivity: Most strong acids react with inorganic and organic bases such as amines to form salts. They also react with many metals liberating hydrogen gas. These reactions are often rapid and sometimes liberate much heat. They can also decompose many organic materials such as esters, in a reaction called hydrolysis.

Conditions to Avoid: Keep containers tightly closed. Containers should be kept dry. Keep isolated from combustible materials.

Incompatibilities: water, bases, zinc, tin, aluminium and their alloys.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Lead Sulfate	Conc>=10%: T; R40; R61; R62; R68; R48/22; R33
<ul style="list-style-type: none"> Carcinogenicity - category 2 Germ cell mutagenicity - category 2 Specific target organ toxicity (repeated exposure) - category 2 Reproductive toxicity - category 1A 	
Sulfuric Acid	Conc>=15%: C; R35
<ul style="list-style-type: none"> Skin corrosion - category 1A 	

Lead exposure has been associated with increased risk of lung, stomach, and bladder cancer in diverse human populations. In studies of humans occupationally exposed to lead, there is evidence to suggest that lead damages chromosomes or DNA. In most studies, lead caused micronucleus formation, chromosomal aberrations, and DNA damage, but studies on sister chromatid exchange gave conflicting results. Genetic studies on humans environmentally exposed to lead also gave conflicting results. Lead did not cause mutations in bacteria, and results from test systems using mammalian cells were conflicting. A report may be found at <http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s101lead.pdf>

Potential Health Effects

Inhalation:

Short Term Exposure: This product is an inhalation irritant if leaking. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased if treatment is prompt.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: This product is corrosive to the skin if leaking. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralised. Severity depends on concentration and duration of exposure. Burns may not be immediately painful; the onset of pain may be minutes to hours.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is corrosive to eyes if leaking. It will cause severe pain, and corrosion of the eye and surrounding facial tissues. Unless exposure is quickly treated, permanent blindness and facial scarring is likely.

Long Term Exposure: No data for health effects associated with long term eye exposure.

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Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product is corrosive to the gastrointestinal tract. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralised. Severity depends on concentration and duration of exposure.

Long Term Exposure: Long term minor exposures to this product may cause serious health effects.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: Lead is classified by NTP as reasonably anticipated to be carcinogenic to humans.

Sulfuric Acid is classified by NTP as reasonably anticipated to be carcinogenic to humans.

See the NTP website for further details. A web address has not been provided as addresses frequently change.

IARC: Lead is classed 2b IARC - possibly carcinogenic to humans. Lead compounds, evaluated as a group.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

Section 12 - Ecological Information

This product is not biodegradable; it may accumulate in the soil or water and cause long term problems.

Section 13 - Disposal Considerations

Disposal: When neutralized collect residue and place in a suitable container labelled as containing hazardous waste. Treat refuse as hazardous waste when disposing.

Do not release hazardous waste into drains, sewers or the environment.

Section 14 - Transport Information

Dangerous according to IATA criteria.

UN Number: 2800, BATTERIES, WET, NON-SPILLABLE, electric storage

Hazchem Code: 2R

Special Provisions: 238

Dangerous Goods Class: Class 8: Corrosive Substances.

Packing Group: No packing group specified.

Packing Instruction: P003

Class 8 Corrosive Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances where the Toxic Substances are cyanides and the Corrosives are acids), 7 (Radioactive Substances), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Poisonous Gases), 3 (Flammable liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 6 (Toxic Substances except where the Toxic Substances are cyanides and the Corrosives are acids) and 9 (Miscellaneous Dangerous Goods).

Battery Energy sealed lead acid batteries are classified in Australia as not subject to the Australian Dangerous Goods Code or IMDG codes because they meet the conditions in Special Provision 238. For air transport, they are classified as suitable under IATA Dangerous goods regulation Special Provision clause A 67.

During transport, the batteries are kept in wooden or cardboard / polystyrene packaging. Considerable care should be exercised when handling the batteries due to their weight and the relative fragility of the case. Do not use the terminal posts for handling or lifting the cells or batteries. When supplied, plastic handles should be employed.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Lead sulfate, is mentioned in the SUSMP.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number

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Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

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Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (Feb 2016)

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Physical Details of Gel Batteries				
	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
EnerGEL				
4EG70	184	109	265	12.5
4EG100	184	109	265	15.5
6EG100	276	184	265	27
6EG130	276	184	265	32
6EG160	276	184	265	38
2EG200	184	109	265	15
2EG225	197	184	265	20
4EG225	276	184	265	36
4EG250	276	184	265	39
2EG290	206	124	497	25
2EG300	197	184	265	23
2EG350	197	184	265	26
2EG360	206	124	497	29.5
2EG400	276	184	265	33
2EG425	206	145	497	34
2EG495	206	166	497	38
2EG500	276	184	265	37
2EG550	276	184	265	40
2EG700	206	145	680	59
2EG800	206	145	680	64
2EG900	210	191	680	81
2EG1100	210	191	680	86
2EG1300	233	210	680	102
2EG1600	275	210	680	124
12EG105FTG	394	125	287	40
12EG160FTG	548	125	317	60
PowerGEL				
12PG180FTG	548	125	317	60
SunGEL				
4SG100	184	109	265	12.5
6SG150	276	184	265	27.5
6SG200	276	184	265	32
2SG250	184	109	165	13.5

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	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
4SG320	276	184	265	39
2SG450	184	197	265	23
2SG470	206	124	497	25
2SG595	206	124	497	29.5
2SG650	185	276	265	33
2SG710	206	145	497	34
2SG820	206	166	497	38
2SG875	145	206	680	49
2SG1000	145	206	680	54
2SG1200	210	191	680	64
2SG1400	210	191	680	71
2SG1750	210	233	680	87
2SG2000	275	210	680	104
12SG133FTG	394	125	287	40
12SG200FTG	548	125	317	60
RailGEL				
4RG55	184	109	265	10.4
4RG85	184	109	265	15
6RG120	276	184	265	32
6RG150	276	184	265	38
2RG180	184	109	265	15
2RG200P	184	109	165	13.8
4RG240	276	184	265	39
4RG240D	279	184	265	40
4RG275PD	276	184	265	36
2RG330	197	184	265	26.5
2RG500	276	184	265	40

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