

Battery | Safety data sheet

Valve regulated lead acid batteries maintenance free non-spillable

According to ISO 11014:2009 format.

Section 1 Chemical product and company identification	
Product name	Permobil maintenance free AGM GEL battery
Product part no.	1836054, 1836529
Recommended use of the product	To be used in an electrically powered wheelchair.
Restricted use of the product	Not to be used in any other application other than mentioned in the recommended use of the product.
How to contact Permobil	Permobil Inc. 300 Duke Drive Lebanon, TN 37090 USA ☎ +1 800 736 0925 📠 +1 800 231 3256 ✉ support@permobil.com 🌐 www.permobil.com
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Section 2 Hazards identification	
The battery has passed the vibration test, pressure differential test and leakage test at 55°C according to Recommendations on the TRANSPORT OF DANGEROUS GOODS Model SPECIAL PROVISION 238. It is not restricted to IATA DGR according to special provision A67 and is not restricted to IMDG CODE according to special provision 238.	
Lead/Lead oxides	
Under normal conditions of use, lead dust, vapors, and fumes are not generated. Hazardous exposure may occur when product is overheated, oxidized, or otherwise processed or damaged to create dust, vapor or fumes. The melting point is 327.5C°, boiling point 1740C°, There will be lead smoke and lead dust if temperature is more than 327.5C°.	

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Inhalation	Lead dust or fumes may cause irritation of upper respiratory tract or lungs.
Skin contact	Lead compounds are not readily absorbed through the skin.
Eye contact	Lead compounds may cause eye irritation.
Sulfuric acid	
Under normal conditions of use, it will not be affected. When the battery is opened, or in the case of a leak, dangerous contact may occur.	
Inhalation	Acid mist may irritate the upper respiratory tract or lungs.
Skin contact	Sulfuric acid can corrode the skin.
Eye contact	Sulfuric acid can cause eye irritation.

Section 3 Composition/Information on ingredients

Substance/Mixture	Percent	CAS number
Lead/Lead oxides	68%	7439-92-1
Sulfuric acid	25%	7664-93-9
Separator	2%	65997-17-3
ABS container	5%	9003-56-9

Section 4 First-aid measures

Emergency and first aid procedures if exposed to internal components of the battery

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Inhalation	Evacuate and ensure you are breathing fresh air. Give oxygen or artificial respiration if needed. Get immediate medical attention.
Eye contact	Flush with plenty of water for at least 15 minutes, hold eyelids open. Get immediate medical attention.
Skin contact	Remove contaminated clothing and flush affected areas with plenty of water for at least 15 minutes and obtain medical attention if necessary.
Ingestion	Do not induce vomiting. Dilute by giving large quantities of water. If available give several glasses of milk. Do not give anything by mouth to an unconscious person. Give CPR if breathing or pulse has stopped. Get immediate medical attention.

Section 5 Firefighting measures

Flash point	Not applicable.
Extinguishing media	Use water, foam or dry powder as appropriate to extinguish fire.
Firefighting procedures	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode. Fight fire from the maximum distance. Evacuate area.
Specific hazards	When involved in a fire, the battery may decompose and produce irritating fumes containing metal oxides. Plastic case may create toxic vapor, gases or fumes if exposed to open fire.

Section 6 Accidental release measures

Personal precautions	Wear appropriate personal protective equipment as specified in Section 8.
Environmental precautions	This material may be non-hazardous in ordinary use and may be discarded in accordance with applicable governmental regulations and take order with the demands of the environmental protection section.
Methods of clean up	Spill and leaks are unlikely because cells are contained in a sealed case. In the event of a battery rupture, prevent skin contact and collect all released material in a plastic lined metal

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	container to prevent spill from entering drinking water supplies or streams. Any product recovery or disposal must comply with local, state, federal, country, or international specific regulations.
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Section 7 Handling and storage	
Handling	All connections should be connected accurately to avoid the possibility of a short circuit. Do not let oil and water or other contamination drop on the top of battery while working. Use only in well-ventilated areas. Keep away from heat, sparks, and open flames. Emergency shower and eyes wash should be accessible in the work area. Avoid contact with skin and eyes. Use of full-length sleeves and pants; boots or work shoes are recommended for manufacturing operations.
Storage	Store in cool, dry, well-ventilated area and away from combustible materials, sources of ignition, excessive heat and direct sunlight. Do not store in sealed areas.
Warning	This product is intended for use with power wheelchairs. It is not intended for use by children without supervision, included cleaning and maintenance of the product. It is not a toy for children to play with.

Section 8 Exposure controls and personal protection	
Engineering controls	Use ventilation equipment, safety showers and eye showers.
Personal protective equipment (when handling the battery)	
Respiratory	Wear government approved air purifying respirator if necessary
Eyes protection	Chemical safety glasses with side shields to avoid eye contact.
Hand protection	Acid-proof gloves.
Skin and body protection	Wear appropriate protective clothing
Other protective measures	Smoking, drinking, or eating are strictly prohibited when handling the battery.

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Work/Hygienic practices	
<p>Remove jewelry, rings, watches and any other metallic objects while working on batteries. All tools should insulate to avoid the possibility of shorting connections. DO NOT lay tools on top of battery.</p> <p>Be sure to remove static electricity from tools and individual person by touching a grounded surface in the vicinity of the batteries. The batteries are heavy and serious injury can result from improper lifting or installation. DO NOT lift, carry, install or remove the batteries by pulling the terminal posts, because terminal posts and post seals may be damaged from improper use. DO KEEP a fire extinguisher and emergency communications in the work area.</p>	

Section 9

Physical and chemical properties

Appearance	The battery is solid.
Odor	The battery is odorless.
Odor threshold	No data available.
pH	No data available.
Melting point/freeze point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapor pressure	No data available.

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Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	Lead, lead oxide and lead sulfate are insoluble in water.
Partition coefficient: n-octol/water	No data available.
Auto-ignition temperature	No data available.
Viscosity	No data available.

Section 10

Stability and reactivity

Reactivity	No reactivity under normal conditions.
Chemical stability	Stable under normal conditions.
Conditions to avoid	Direct sunlight, overheat, sparks and other sources of ignition.
Incompatibility	Incompatible with strong oxidizing agents, potassium, sodium.
Hazardous polymerization	Hazardous polymerization will not occur.

Section 11

Toxicological information

Acute toxicity	Lead/Lead oxides: Toxic by ingestion or inhalation. Chronic poison. Lead may be toxic to blood, kidneys, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.
Skin corrosion/irritation	Sulfuric acid: Contact may cause severe irritation to eyes and skin, causes burns. Potential Chronic Health Effects: Can be slightly hazardous in case of skin contact (permanent).
Teratogenic effects	No data available.

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Developmental toxicity	No data available.
Serious eye damage/irritation	No data available.
Respiratory or skin sensitization	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	Lead/Lead Oxides: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC. Sulfuric Acid: G1 by IARC. Not available.
Reproductive toxicity	No data available.
STOT-single exposure	No data available.
STOT-repeated exposure	No data available.
Aspiration hazard	No data available.

Section 12 Ecological information

Lead/Lead oxides

Eco-toxicity	Not available.
BOD5 and COD	Not available.
Products of biodegradation	Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.
Toxicity of the products of biodegradation	The products of degradation are less toxic than the product itself.
Special remarks on the products of biodegradation	Not available.

Sulfuric Acid

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Harmful to the environment, can cause pollution to water bodies and soil.	
Non-biodegradability	Not available.

Section 13 Disposal considerations

Waste disposal method	Spent batteries must be treated as hazardous waste and disposed of according to local state, and federal regulations. A copy of this material safety data must be supplied to any scrap dealer or secondary smelter with battery. Put into trash bin, otherwise incineration, otherwise licensed landfill, or safe disposal as required by local, state, federal, international, or country specific regulations.
Empty container warnings	Empty containers may contain product residue, follow SDS and label warnings even after they have been emptied.

Section 14 Transport information

Ground

Our non-spillable lead acid batteries meet all the following requirements found at DOT 49 CFR 173.159(d):
When offered for transport, the batteries are protected against short circuits and securely packaged as required by DOT 49 CFR 173.159(d) (1);
The batteries and outer packaging are marked with the words "NONSPILLABLE" or "NONSPILLABLE BATTERY" as required by DOT 49 CFR 173.159(d) (2);
The batteries comply with the vibration and pressure differential tests found in DOT 49 CFR 173.159(d) (3).

Aircraft-ICAO-IATA

Our non-spillable lead acid batteries also are excepted from the international hazardous materials (also known as dangerous goods) regulations since they comply with the following requirements:
According to the requirements of Packing Instruction 806 in IATA (International Air Transport Association) and ICAO (International Civil Aviation Organization), there should not be any electrolyte leakage after the vibration and pressure differential tests.
And, Special Provision A67 states Non-spillable batteries are not subject to these Instructions (Packing Instruction 806) if at the temperature of 55 C (131 F), the electrolyte will not flow from a ruptured or cracked case and there is no free liquid flow and if, when packaged for transport the batteries are protected from short circuit and unintentional activation.

Vessel IMO-IMDG

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Our non-spillable batteries are excepted from the international hazardous materials (also known as dangerous goods) regulations since they conform to the requirements of IMDG Code Special Provision 238.1 and 238.2, that is the batteries have passed the vibration and pressure differential performance tests, and at a temperature of 55 C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid flow and if, when package for transport, the terminal are protected from short circuit.

Additional information:

Each battery and the outer packaging must be plainly and durably marked Non-spillable or Non-spillable Battery.

Transport requires proper packaging and paperwork, including the nature and quantity of goods, applicable origin/destination-/customs points as shipped.

Section 15 Regulatory information

EU regulation

According to the EU2013 / 56 / EC battery directive, VRLA batteries should carry a crossed wheeled bin symbol with an ISO recycling symbol.



Section 16 Other information

No data available.