

# 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 those mentioned in the recommended use of the product.
How to contact Permobil	Permobil Ltd. Regus 6th floor, 2 Kingdom Street, Paddington W2 6BD, London United Kingdom  ☎ +44 1484 722 888 📠 +44 1484 723 013 ✉ info@permobil.uk 🌐 www.permobil.com
Head office of the Permobil group	Permobil AB Per Uddéns väg 20 SE 861 36 Timrå Sweden  ☎ +46 60 59 59 00 📠 +46 60 57 52 50 ✉ support@permobil.com 🌐 www.permobil.com

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.
<b>Lead/Lead oxides</b>
Under normal conditions of use, no lead dust, vapours, or fumes are generated. Hazardous exposure may occur if the product is overheated, oxidised, or otherwise processed or damaged such that dust, vapour or fumes are generated. The melting point is 327.5°C and the boiling point is 1740°C. There will be lead smoke and lead dust if the temperature is higher than 327.5°C.

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

Inhalation	Lead dust or fumes may cause irritation of the upper respiratory tract or lungs.
Skin contact	Lead compounds are not readily absorbed through the skin.
Eye contact	Lead compounds may cause eye irritation.
<b>Sulphuric acid</b>	
Under normal conditions of use, it will not be affected. If 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	Sulphuric acid can corrode the skin.
Eye contact	Sulphuric acid can cause eye irritation.

## Section 3 Composition/Information on ingredients

Substance/Mixture	Percent	CAS number
Lead/Lead oxides	68%	7439-92-1
Sulphuric 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 exposure to internal components of the battery occurs

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

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 the 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 drinking large quantities of water. If available, drink several glasses of milk. Do not give anything by mouth to an unconscious person. Give CPR if the person's 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 pressure demand or other positive pressure mode. Fight fire from the maximum possible distance. Evacuate the area.
Specific hazards	When affected by a fire, the battery may decompose and produce irritating fumes containing metal oxides. The plastic case may create toxic vapour, 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 the applicable governmental regulations and with the demands of the environmental protection authority.
Methods of clean up	Spill and leaks are unlikely because the cells are contained in a sealed case. In the event of a battery rupture, prevent skin

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

	contact and collect all the released material in a plastic-lined metal container to prevent the spilled substances from entering drinking water supplies or streams. Any product recovery or disposal must comply with local, state, federal, country, or international specific regulations.
--	---

## Section 7 Handling and storage

Handling	All connections should be connected accurately to avoid the possibility of a short circuit. Do not let oil, 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 eye wash facilities should be accessible in the work area. Avoid contact with skin and eyes. The wearing of full-length sleeves and trousers as well as boots or work shoes is recommended for manufacturing operations.
Storage	Store in a 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.
<b>Personal protective equipment (when handling the battery)</b>	
Respiratory	Wear a government-approved air purifying respirator if necessary.
Eye protection	Chemical safety glasses with side shields to avoid eye contact.
Hand protection	Acid-proof gloves.
Skin and body protection	Wear appropriate protective clothing.

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

Other protective measures	Smoking, drinking and eating are strictly prohibited when handling the battery.
Work/Hygienic practices	
Remove jewellery, rings, watches and any other metallic objects before working on batteries. All tools should insulate to avoid the possibility of shorting connections. DO NOT lay tools on top of the battery. <b>Be sure to discharge any static electricity from tools and individual persons 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 on the terminal posts. The terminal posts and post seals may be damaged if used improperly. DO KEEP a fire extinguisher and emergency communications in the work area.</b>	

## Section 9

### Physical and chemical properties

Appearance	The battery is solid.
Odour	The battery is odourless.
Odour threshold	No data available.
pH	No data available.
Melting point/freezing 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.

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

Vapour pressure	No data available.
Vapour density	No data available.
Relative density	No data available.
Solubility(ies)	Lead, lead oxide and lead sulphate 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, overheating, sparks and other sources of ignition.
Incompatibility	Incompatible with strong oxidising agents, potassium and sodium.
Hazardous polymerisation	No hazardous polymerisation will occur.

## Section 11 Toxicological information

Acute toxicity	<b>Lead/Lead oxides:</b> Toxic if ingested or inhaled. Chronic poison. Lead may be toxic to the blood, kidneys and central nervous system (CNS). Repeated or prolonged exposure to the substance can cause organ damage.
Skin corrosion/irritation	<b>Sulphuric acid:</b> Contact may cause severe irritation to eyes and skin; causes burns. Potential Chronic Health Effects: Can be slightly hazardous in the case of skin contact (permanent).

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

Teratogenic effects	No data available.
Developmental toxicity	No data available.
Serious eye damage/irritation	No data available.
Respiratory or skin sensitisation	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. Sulphuric 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.

# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

<b>Sulphuric Acid</b>	
Harmful to the environment; can cause pollution to water bodies and soil.	
Non-biodegradability	Not available.

<b>Section 13</b>	
<b>Disposal considerations</b>	
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 together with battery. Put into rubbish 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 the containers have been emptied.

<b>Section 14</b>	
<b>Transport information</b>	
<b>Ground</b>	
Our non-spillable lead acid batteries meet all the following requirements found at DOT 49 CFR 173.159(d): <ul style="list-style-type: none"><li>• When offered for transport, the batteries are protected against short circuits and securely packaged as required by DOT 49 CFR 173.159(d) (1);</li><li>• The batteries and outer packaging are marked with the words "NONSPILLABLE" or "NONSPILLABLE BATTERY" as required by DOT 49 CFR 173.159(d) (2);</li><li>• The batteries comply with the vibration and pressure differential tests found in DOT 49 CFR 173.159(d) (3).</li></ul>	
<b>Aircraft-ICAO-IATA</b>	
Our non-spillable lead acid batteries also are excepted from the international hazardous materials (also known as dangerous goods) regulations since the batteries comply with the following requirements: <ul style="list-style-type: none"><li>• According to the requirements of Packing Instruction 806 in IATA (International Air Transport Association) and ICAO (International Civil Aviation Organisation), there should not be any electrolyte leakage after the vibration and pressure differential tests.</li><li>• 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.</li></ul>	



# Battery | Safety data sheet

Valve regulated lead acid batteries maintenance-free non-spillable

## Vessel IMO-IMDG

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 when packaged for transport the terminals 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".
- Proper packaging and paperwork are required for transport, including details of the nature and quantity of goods and the applicable origin/destination/customs points.

## 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.