




# Safety Data Sheet<sup>1</sup> - Product information

Product Range: HOPPECKE Vented lead acid batteries

1. GENERAL INFORMATION	
<p>Manufacturer's Name: HOPPECKE Batterien GmbH &amp; Co. KG Bontkirchener Str. 1  59929 Brilon, Germany</p> <p>Telephone number for information: 02963 61 464 Emergency telephone number: For transports only National/International: +49 (0) 178 433 74 34 USA: 01149 178 433 74 34</p>	<p>Date: April 2018</p> <p>Product: Vented Lead Acid Battery (VLA)</p> <p><b>Brand names:</b> max.power, sun   power V L, grid   power V L, grid   power V M, grid   power V H, grid   power V X</p>

2. HAZARDS IDENTIFICATION		
Health	Environmental	Physical
		
<p><b>Hazard Statements</b></p> <p>DANGER!</p> <p>Causes severe skin burns and eye damage.</p> <p>Causes serious eye damage.</p> <p>May damage fertility or the unborn child if ingested or inhaled.</p> <p>May cause cancer if ingested or inhaled.</p> <p>Cause damage to central nervous system, blood and kidneys through prolonged or repeated exposure.</p> <p>May form explosive air/gas mixture during charging.</p> <p>Extremely flammable gas (hydrogen).</p> <p>Explosive, fire, blast or projection hazard.</p>	<p><b>Precautionary Statements</b></p> <p>Wash thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Wear protective gloves, protective clothing, and eye protection.</p> <p>Avoid breathing dust, fume, gas, mist, vapors, and spray.</p> <p>Use only in well – ventilated areas.</p> <p>Cause skin irritation, serious eye damage.</p> <p>Contact with internal components may cause irritation of severe burns. Avoid contact with internal acid.</p> <p>Irritating to eyes, respiratory systems and skin.</p>	

<sup>1</sup> Batteries are considered as articles under REACH regulation 1907/2006/EC and, as such, do not require the publication of a safety data sheet. However, there is a requirement to provide safety information on products. This document, which fulfils this requirement, is commonly called an MSDS, but, in Europe, is more correctly referred to as 'Instructions for the Safe Handling of Lead-Acid Batteries'.

### 3. HAZARDOUS INGREDIENTS/IDENTIFY NOTIFICATION

Components	CAS Number
Inorganic Lead	7439-92-1
Electrolyte (Sulfuric Acid - H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> O)	7664-93-9

### 4. FIRST AID MEASURES

#### Inhalation

Sulfuric Acid: Remove to fresh air immediately. Consult a physician.

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

#### Ingestion

Sulfuric Acid: Give large quantities of water. Consult a physician.

Lead: Consult physician immediately.

#### Skin

Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely.

If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.

Lead: Wash immediately with soap and water.

#### Eyes

Sulfuric Acid and Lead: Flush immediately with large amounts of water for least 15 minutes while lifting lids.

Seek immediate medical attention.

### 5. FIRE FIGHTING MEASURES

**Flash Point (Method Used):**

non flammable

**Flammable Limits:**

\*Hydrogen Gas

**Extinguishing Media:**

Class ABC extinguisher,

**Limits:**

LEL = 4.1% (Hydrogen Gas) UEL = 74.2%

**NOTE: CO<sub>2</sub> may be used, but not directly on the cell. The thermal shock may cause cracking of the battery case and/or cases.**

**Hydrogen gas may be generated during battery charging.**

Special Fire Fighting Procedures: If batteries are on charge, turn off power. Use positive pressure, self-contained breathing apparatus in fighting fire. Water applied to electrolyte generates heat and causes it to splatter. Wear acid resistant clothing. Ventilate area well.

Unusual Fire and Explosion Hazards: Hydrogen and oxygen gases are generated in cells during normal battery operation or when on charge. (Hydrogen is flammable and oxygen supports combustion). These gases enter the air through the vent caps during battery overcharging. To avoid risk of fire or explosion, keep sparks and other sources of ignition away from the battery. Do not allow metal objects to simultaneously contact both positive and negative terminal of batteries. Ventilate area well.



## 6. PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps to be Taken in Case Material is Released or Spilled:** Electrolyte material is corrosive. Contains sulfuric acid. Neutralize any spilled material. Reference 1996 North American Emergency Response Guidebook, #154.

**Waste Disposal Method:** Lead-acid batteries are completely recyclable. For information on returning batteries to HOPPECKE Batterien GmbH & Co. KG for recycling, contact your HOPPECKE Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

**Precautions to be Taken in Handling and Storing:** Store away from reactive material as defined in Section V, Reactivity Data. Place cardboard between layers of stacked batteries to avoid damage and short circuit. Do not allow metallic materials to simultaneously contact both terminals.

**Other Precautions:** If battery case is broken, avoid direct contact with internal components. Keep away from ignition sources during charging.

## 7. HANDLING AND STORAGE

### Handling:

Unless involved in recycling operations, do not breach the casing or empty the contents of the battery. There may be increasing risk of electric shock from strings of connected batteries.

Keep containers tightly closed when not in use. If battery case is broken, avoid contact with internal components. Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water.

### Storage:

Store batteries in cool, dry, well-ventilated areas with impervious surfaces. Batteries should also be stored under roof for protection against adverse weather conditions. Separate from incompatible materials. Avoid damage to containers. Keep away from fire, sparks and heat. Keep away from metallic objects could bridge the terminals on a battery and create a dangerous short-circuit.

### 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 must be ventilated. Prohibit smoking and avoid creation of flames and sparks nearby.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Common Name	OSHA PEL	ACGIH TLV	Range Percent by Weight
Lead	0.05 mg/m <sup>3</sup>	0.15 mg/m <sup>3</sup>	54-62% wt
Electrolyte	1.00 mg/m <sup>3</sup>	1.00 mg/m <sup>3</sup>	26-40% wt

Percentages of components are dependent both on the model of the battery and state of charge/discharge of the battery. Inorganic lead and electrolyte (sulphuric acid) are the primary components of every battery manufactured by HOPPECKE Batterien GmbH & CO. KG.

Other ingredients may be present dependent upon battery type. Contact your HOPPECKE Batterien GmbH & CO. KG representative for additional information.

Under normal use and handling the customer has no contact with the internal components of the battery or the chemical hazards. Under normal use and handling these batteries do not emit regulated or hazardous substances. Warning: Battery terminals posts and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands thoroughly after working with batteries and before eating, drinking or smoking.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Electrolyte (Sulfuric Acid):  
See enclosed MSDS electrolyte

Lead:  
See enclosed MSDS lead

## 10. REACTIVITY DATA

**Stability:** Stable

**Condition to Avoid:** Prolonged overcharging, sources of ignition

**Incompatibility (Materials to Avoid):** Sulfuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas. Combination of Sulfuric acid with combustibles and organic materials may cause fire and explosion. Avoid strong reducing agents, most metals, carbides, chlorates, nitrates, and picrate.

**Hazardous Decomposition Products:** Sulfuric Acid: Excessive overcharging or fire may create sulfur trioxide, carbon monoxide, sulfuric acid mist and sulfur dioxide.

Lead Compounds: Contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

Hydrogen gas may be generated in an overcharged condition, in fire or at very high temperatures. CO, CO<sub>2</sub>, and sulfur oxides may emit in fire. Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

Electrolyte (Sulfuric Acid):  
See enclosed MSDS electrolyte

Lead:  
See enclosed MSDS lead

## 12. ECOLOGICAL INFORMATION

Electrolyte (Sulfuric Acid):  
See enclosed MSDS electrolyte

Lead:  
See enclosed MSDS lead

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Lead-acid batteries are completely recyclable. For information on returning batteries to HOPPECKE Batterien GmbH & Co. KG for recycling, contact your HOPPECKE Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

## 14. TRANSPORT INFORMATION

Transport regulations for hazardous substances contained

Cargo freights ADR/RID and GGVS/GGVE (trans border/national):

ADR/RID-GGVS/E class	8
UN-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid (electric storage)
Specifics	Due to passed tests and special provision 238 ADR the product named above are no dangerous goods for road transport.

Maritime transports IMDG/GGVSee:

IMDG/GGVSee-class	8
UN-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid (electric storage)

Aerial transportation ICAO-TI and IATA-DGR:

ICAO/IATA-class	8
UN/ID-Number	UN 2794
Label	8
Technical name	batteries, wet, filled with acid (electric storage)

The provisions of this code shall not apply to leak-proof batteries if at a temperature of 55 ° C in the case of a housing collapse, or a crack in the casing, the electrolyte cannot spill, no free liquid which could leak is present, and the batteries are ready for dispatch and secured against short circuit.

## 15. REGULATORY INFORMATION

Electrolyte (Sulfuric Acid):  
See enclosed MSDS electrolyte

Lead:  
See enclosed MSDS lead

## 16. OTHER INFORMATION

The information given above is provided in good faith based on existing knowledge and does not constitute an assurance of safety under all conditions. It is the user's responsibility to observe all laws and regulations applicable for storage, use, maintenance or disposal of the product. If there are any queries, the supplier should be consulted.

However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.