

# Victron Energy OPzS Battery, dry, without acid

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - GENERAL INFORMATION

MANUFACTURER'S NAME: Victron Energy B.V	EMERGENCY TELEPHONE NO.: +31-36-5359700
ADDRESS: De Paal 35 1351 JG Almere-Haven The Netherlands	OTHER INFORMATION CALLS: +31-36-5359700
<b>Chemical / Trade Name (as used on label):</b> Lead-Acid Battery	<b>Chemical Family / Classification:</b> Electric Storage Battery
PERSON RESPONSIBLE FOR PREPARATION Reinout Vader, Managing Director	Revised date: November 14 <sup>th</sup> , 2017

### SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS Number	% Weight	OSHA	ACGIH	NIOSH
<b>Inorganic compounds:</b>					
Lead	7439-92-1	90-95	50	150	100
Calcium	7440-70-2	0.02	--	--	--
Tin	7440-31-5	0.06	2000	2000	--
Antimony	7440-36-0	1-6	500	500	1000
Arsenic	7440-38-2	<1	500	500	--
Copper	7440-50-8	<1	1000	1000	--

#### NON-HAZARDOUS INGREDIENTS

Polyester  
Polyethylene  
Styrenacrylnitril (SAN) cell container

### SECTION 3 - HAZARD IDENTIFICATION

Signs and symptoms of exposure	1. Acute hazards	Do not open battery. Avoid contact with internal components Lead - Direct skin or eye contact may cause local irritation. Inhalation or ingestion of lead dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm and joint pain.			
	2. Sub-chronic and chronic health effects	Lead - Prolonged exposure may cause central nervous system damage, gastrointestinal disturbances, anemia, irritability, metallic taste, insomnia, wrist-drop, kidney dysfunction and reproductive system disturbances. Pregnant women should be protected from excessive exposure to prevent lead from crossing the placental barrier and causing infant neurological disorders. California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm, and during charging, strong inorganic acid mists containing sulfuric acid are evolved, a chemical Known to the State of California to cause cancer. Wash hands after handling.			
Medical conditions generally aggravated by exposure	Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.				
Routes of entry	Inhalation - YES Ingestion - YES	Eye Contact- YES			
Chemical(s) listed as carcinogen or potential carcinogen	Proposition 65 - YES	National Toxicology Program - YES	I.A.R.C. Monographs - YES	O.S.H.A. - NO	

### SECTION 4 - FIRST AID MEASURES

Routes of Entry: Lead compounds	Hazardous exposure can occur only when product is heated above the melting point, oxidized, or otherwise processed or damaged to create dust, vapor, or fume.
1. Inhalation	Inhalation of lead dust or fumes may cause irritation of upper respiratory tract and lungs. Remove from exposure, gargle, wash nose and lips; consult physician.
2. Ingestion	Acute ingestion may cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. This may lead rapidly to systemic toxicity. Consult physician immediately.
3. Skin contact	Not absorbed through the skin. Wash with soap and water.
4. Eye contact	May cause eye irritation.
5. Effects of overexposure - acute	Symptoms of toxicity include headache, fatigue, abdominal pain, loss of appetite, muscular aches and weakness, sleep disturbances, and irritability.
6. Effects of overexposure - chronic:	Anemia; neuropathy, particularly of the motor nerves, with wrist drop; kidney damage; reproductive changes in both males and females.
7. Carcinogenicity	Listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.
8. Medical conditions generally aggravated by exposure	Lead and its compounds can aggravate some forms of kidney, liver, and neurologic diseases.

## SECTION 5 - FIREFIGHTING MEASURES

Flash point: not applicable	Extinguishing Media: CO <sub>2</sub> , foam, dry chemical	Auto-Ignition temperature: 500°C (900°F) (styrenacrylnitril)
Special firefighting procedures	Lead/acid batteries do not burn, or burn with difficulty. Do not use water on fires where molten metal is present. Extinguish fire with agent suitable for surrounding combustible materials. Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors generated by heat or fire are corrosive. Use NIOSH approved self-contained breathing apparatus (SCBA) and full protective equipment operated in positive-pressure mode.	

## SECTION 6 - HANDLING AND STORAGE

Precautions to be taken in handling and storage	Store away from reactive materials, open flames and sources of ignition as defined in Section 7 – Stability and Reactivity Data. Store batteries in cool, dry, well-ventilated areas. Batteries should be stored under roof for protection against adverse weather conditions. Avoid damage to containers.
Other precautions	GOOD PERSONAL HYGIENE AND WORK PRACTICES ARE MANDATORY. Refrain from eating, drinking or smoking in work areas. Thoroughly wash hands, face, neck and arms, before eating, drinking and smoking. Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Wash soiled clothing, work clothes and equipment before reuse.
Respiratory protection	None required under normal conditions.
Protective gloves	None required under normal conditions.
Eye protection	None required under normal conditions.

## SECTION 7 - STABILITY AND REACTIVITY

Stability	Stable
Incompatibility (materials to avoid)	<u>Lead compounds</u> : Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.
Hazardous decomposition products	<u>Lead compounds</u> : High temperatures likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.
Hazardous polymerization	Hazardous polymerization has not been reported.

## SECTION 8 - ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates, and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

## SECTION 9 - DISPOSAL CONSIDERATIONS

Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For information on returning batteries to Victron Energy for recycling call +31-36-5359700.

## SECTION 10 – TRANSPORT INFORMATION

### GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Proper shipping name: Not regulated as a Hazardous Material

### AIRCRAFT – ICAO-IATA:

Proper shipping name: Not regulated as a Hazardous Material

### VESSEL – IMO-IMDG:

Proper shipping name: Not regulated as a Hazardous Material

### Additional Information

- Battery, Dry, not subject to Hazardous Material Requirements. Not regulated as a Hazardous Material therefore must not be marked with an identification number or hazardous label and is not subject to hazardous shipping paper requirements.

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

## SECTION 11 – REGULATORY INFORMATION

U.S. HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD:

LEAD – YES  
ARSENIC – YES

INGREDIENTS LISTED ON TSCA INVENTORY: YES

CERCLA SECTION 304 HAZARDOUS SUBSTANCES:

LEAD – YES  
ARSENIC – YES  
RQ: N/A\*  
RQ: 1 POUND

\* RQ: REPORTING NOT REQUIRED WHEN DIAMETER OF THE PIECES OF SOLID METAL RELEASED IS EQUAL TO OR EXCEEDS 100 µm (micrometers).

EPCRA SECTION 313 TOXIC RELEASE INVENTORY:

LEAD – CAS NO: 7439-92-1  
ARSENIC – CAS NO: 7440-38-2

## SECTION 12 – OTHER INFORMATION

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, VICTRON BATTERY MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. ALTHOUGH REASONABLE PRECAUTIONS HAVE BEEN TAKEN IN THE PREPARATION OF THE DATA CONTAINED HEREIN, IT IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION. THIS MATERIAL SAFETY DATA SHEET PROVIDES GUIDELINES FOR THE SAFE HANDLING AND USE OF THIS PRODUCT; IT DOES NOT AND CANNOT ADVISE ON ALL POSSIBLE SITUATIONS, THEREFORE, YOUR SPECIFIC USE OF THIS PRODUCT SHOULD BE EVALUATED TO DETERMINE IF ADDITIONAL PRECAUTIONS ARE REQUIRED.