



# PRODUCT INFORMATION SHEET

N° DXK43E01en

*Reserve Power Solutions  
Not regulated*

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Title : **VRLA - LEAD ACID STATIONARY BATTERIES**

## GENERAL REMARK

This leaflet was prepared in cooperation with the Committee of Environmental Affairs of EUROBAT (May 2003), reviewed by EUROBAT TC members (September 2003) and CEM (October – November 2003). Last revision: October 2016.

Batteries are "articles" according to Regulation (EC) No 1907/2006 EC, they are not "substances" nor "mixtures", therefore there is no obligation to supply a safety data sheet (SDS) according to Regulation (EC) 1907/2006, and Regulation CLP (EC) 1272/2008.

Information on safe handling is provided as a service to our customers.

This product information sheet contains valuable information critical to the safe handling and proper use of the product. The details presented are in accordance with our present knowledge and experiences, they cannot advise all possible situation.

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name & Use: FIAMM Valve Regulated Lead Acid Battery for stationary application

Company Identification FIAMM Energy Technology S.p.A.  
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## 2. HAZARDS IDENTIFICATION

No hazards occur during the normal operation of a Lead Acid Battery as it is described in the instructions for use that are provided with the Battery. Lead acid Batteries have three significant characteristics:

- They contain an electrolyte which contains diluted sulphuric acid. Sulphuric acid may cause severe chemical burns.
- During the charging process or during operation they might develop hydrogen gas and oxygen, which under certain circumstances may result in an explosive mixture.
- They can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit.

The Batteries have to be marked with the symbols listed under item 15.

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**3. COMPOSITION / INFORMATION ON INGREDIENTS**

CAS no.	Index Numbers	Description	Content <sup>1)</sup> [% of weight]	Hazards Category and Statement Code
7439-92-1	082-014-00-7	Lead Grid (massive lead, lead alloys)	~ 32	Repr. 1A - H360FD Lact- H362 STOT RE 1 – H372
7439-92-1	082-001-00-6	Active Mass (Lead dioxide, inorganic lead compounds, with possible traces of additives)	~ 32	Repr. 1A - H360Df Acute Tox. 4 - H332 Acute Tox. 4 - H302 STOT RE 1 - H372 Lact – H362 Carc.2 – H351 Aquatic Acute 1 - H400 Aquatic Chronic 1 H410
7664-93-9	016-020-00- 8	Electrolyte <sup>2)</sup> (diluted sulphuric acid with additives)	~ 29	SkinCorr.1A - H 314
		Plastic Container / Plastic Parts <sup>3)</sup>	~ 7	

<sup>1)</sup> Contents may vary due to performance data and/or application of the Battery  
<sup>2)</sup> Density of the electrolyte varies in accordance to the state of charge  
<sup>3)</sup> Composition of the plastic may vary due to different customer requirements

Note: Batteries do not contain Cadmium (Cd) and Mercury (Hg)

**4. FIRST AID MEASURES**

This information is of relevance only if the Battery is broken and this results in a direct contact with the ingredients.

4.1 General	Electrolyte (diluted sulphuric acid):	sulphuric acid acts corrosively and damages skin
4.2 Electrolyte (Sulphuric acid)	Lead compounds: after skin contact: after inhalation of acid mist: after contact with the eyes: after swallowing:	lead compounds are classified as toxic for reproduction (if swallowed) rinse with water, remove and wash wetted clothing inhale fresh air, seek advice of a medical doctor rinse under running water for several minutes, seek advice of a medical doctor drink lot of water immediately, swallow activated carbon, do not induce vomiting, seek advice of a medical doctor
4.3 Lead compounds	after skin contact: after inhalation: after contact with the eyes: after swallowing:	clean with water and soap inhale fresh air, seek advice of a medical doctor rinse under running water for several minutes, seek advice of a medical doctor wash mouth with water, seek advice of a medical doctor

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## 5. FIRE FIGHTING MEASURES

### Suitable fire extinguishing agents:

CO2 or dry powder extinguishing agents

### Unsuitable fire extinguishing agents:

Water, if the battery voltage is above 120 V

### Special protective equipment:

Protective goggles, respiratory protective equipment, acid protective equipment, acid-proof clothing in case of larger stationary battery plants or where larger quantities are stored.

## 6. ACCIDENTAL RELEASE MEASURES

This information is of relevance only if the battery is broken and the ingredients are released.

In the case of spillage, use a bonding agent, such as sand, to absorb spilt acid; use lime / sodium bicarbonate for neutralisation; dispose of with due regard to the official local regulations; do not allow penetration into the sewage system, into earth or water bodies.

## 7. HANDLING AND STORAGE

Store under roof in cool ambience charged lead acid batteries do not freeze up to 50°C; prevent short circuits. Seek agreement with local water authorities in case of larger quantities of batteries to be stored. If batteries have to be stored, it is imperative that the instructions for use are observed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Lead and Lead compounds

No exposure to lead and lead containing battery paste during normal conditions of use.

### 8.2 Electrolyte (Sulphuric Acid diluted solution)

Exposure to sulphuric acid and acid mist might occur during filling and charging.

Threshold value in occupational exposure limits for sulphuric acid mist are regulated on a national workplace: basis.

Hazard symbol: corrosive

Personal protective equipment: protective goggles, rubber or PVC gloves, acid resistant clothing, safety boots.

CAS No: 7664-93-9

Hazard statements: H314 Causes severe burns and eye damage.

Precautionary Statements: P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P305+P351+315 IF in eyes. Rinse cautiously with water for several minutes. Get immediate medical advice/attention.

P309+315 IF exposed or if you feel unwell. Get immediate medical advice/attention.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

	Lead and Lead compounds	Electrolyte (diluted sulphuric acid solution)
Appearance		
form :	solid	liquid
colour :	grey	colourless
odour :	odourless	odourless
Safety related data		
solidification point :	327 °C	approx 35 to 60 °C
boiling point :	1740 °C	approx. 108 to 114 °C
solubility in water :	very low (0.15 mg/l)	complete
density (20°C) :	11.35 g/cm3	1.2 to 1.35 kg/l
vapour pressure (20°C) :	N.A.	N.A.

Lead and Lead compounds used in Lead Acid batteries are poorly soluble in water, Lead can be dissolved in an acidic or alkaline environment only.

**10. STABILITY AND REACTIVITY** (referred to diluted sulphuric acid, density 1.2 ÷ 1.35 kg/l)

- Corrosive, non flammable liquid
- Thermal decomposition at 338° C.
- Destroys organic materials such as cardboard, wood, textiles.
- Reacts with metals, producing hydrogen
- Vigorous reactions on contact with sodium hydroxide and alkalis.

**11. TOXICOLOGICAL INFORMATION**

This information does not apply to the finished product "lead acid battery". This information only applies to its compounds in case of a broken product. Different exposure limits exist on a national level.

**11.1 Electrolyte (diluted sulphuric acid):**

Sulphuric Acid is intensely corrosive to skin and mucous membranes; the inhalation of mists may cause damage to the respiratory tract.

Acute toxicity data:

- LD<sub>50</sub> (oral, rat) = 2.140 mg/kg
- LC<sub>50</sub> (inhalation, rat) = 510 mg/m<sup>3</sup>/2h

**11.2 Lead and Lead compounds**

Lead and its compounds used in a Lead Acid Battery may cause damage to the blood, nerves and kidneys when ingested. The lead contained in the active material is classified as toxic for reproduction.

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## 12. ECOLOGICAL INFORMATION

This information is of relevance if the battery is broken and the ingredients are released to the environment.

### 12.1 Electrolyte (diluted sulphuric acid)

In order to avoid damage to the sewage system, the acid has to be neutralised by means of lime or sodium carbonate before disposal. Ecological damage is possible by change of pH. The electrolyte solution reacts with water and organic substances, causing damage to flora and fauna. The electrolyte may also contain soluble components of lead that can be toxic to aquatic environments

### 12.2 Lead and Lead compounds

Chemical and physical treatment is required for the elimination from water. Waste water containing lead must not be disposed of in an untreated condition.

Lead metal grids are not classified as eco-toxic.

## 13. DISPOSAL CONSIDERATIONS

Spent lead acid batteries (EWC 160601\*) are subject to regulation of the EU Battery Directive and its adoptions into national legislation on the composition and end of life management of batteries.

Spent Lead Acid batteries are recycled in lead refineries (secondary lead smelters). The components of a spent Lead Acid battery are recycled or reprocessed.

To simplify the collection and recycling or reprocessing process, spent Lead Acid batteries must not be mixed with other batteries.

By no means may the electrolyte (diluted sulphuric acid) be emptied in an inexpert manner. This process is to be carried out by the processing companies only.

*\*200133 EWC may be used for municipal collected batteries.*

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Title : **VRLA - LEAD ACID STATIONARY BATTERIES****14. TRANSPORT INFORMATION****"Non Regulated" Batteries**

They are excepted from all regulations applicable to dangerous goods transportation, provided that the battery terminals are protected against short circuits and don't have an assigned UN number, since they comply with the following provisions:

International

IMDG Code (International Maritime Dangerous Goods)

- special provision 238.1
- special provision 238.2

IATA (International Air Transport Association) Dangerous Goods Regulation

- packing instruction 872
- special provision A67

Europe

ADR (Agreement for the transportation of Dangerous Goods by Road)

- special provision 238 a)
- special provision 238 b)

USA

U.S. Department of Transportation (DOT) hazardous materials regulations

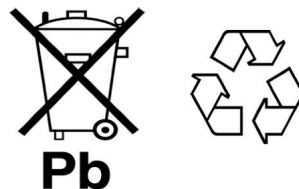
- § 49 CFR 173.159a(d)

**15. REGULATORY INFORMATION**

The following legislation do not apply to lead-acid batteries:

- RoHS directive 2002/95/EC, updated by directive 2011/65/UE
- Low Voltage directive 73/23/EEC, updated by directive 2006/95/EC, if the voltage is < 75 V
- ELV directive 2000/53/EC
- EMC directive 89/336/EEC, updated by directive 2004/108/EC

In accordance with EU Battery Directive and the respective national legislation, Lead Acid batteries have to be marked by a crossed out dust bin with the chemical symbol for lead shown below, together with the ISO return/recycling symbol.



Labelling might vary due to application and dimension of the Battery. The manufacturer, respectively the importer of the batteries shall be responsible for placing the symbols (a minimum size is specified). In addition, consumer/user information on the significance of the symbols may be attached.

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AccumulatorsWear safety  
gogglesDangerous voltage  
electrical riskNo smoking, no  
open flamesObserve  
operating  
instructions**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.

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