

### Section 1 product and company identification

**Product name:** Valve-regulated lead-acid battery (VRLA)

**Trademark:** VEKTOR ENERGY+

**Company name:** VECTOR-BATTERY LIMITED LIABILITY COMPANY

**Address:** 17 Andronievskaya B., str., etazh 5, office 531, Moscow, Russia

Post code : 109544

**E-mail:** [info@vektor-energy.ru](mailto:info@vektor-energy.ru)

**Website:** [www.vektor-energy.ru](http://www.vektor-energy.ru)

**Fax:** +74959119774

**Emergency Phone:** +79104957464

### Section 2 composition/information on ingredients

Pure chemical

Mixture

**Chemical ingredients :**

Chemical ingredient	Molecular formula	Content (about)	CAS No.
Lead and lead oxide	Pb, PbO <sub>2</sub>	60-70	7439-92-1,1309-60-0
Calcium	Ca	<0.15	7440-70-2
Tin	Sn	<1	7440-31-5
Sulfuric acid	H <sub>2</sub> SO <sub>4</sub>	10-15	7664-93-9
ABS		5-10	9003-56-9
AGM separator		3-4	

### Section 3 hazards summarizing

**Classification of Danger :** (see section 14)

**Invasion Route:** eyes, skin contact, ingestion

**Health Hazard:** The Valve-regulated lead-acid batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Contact with internal components may cause irritation or burns to eyes and skin. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

**Environmental Hazard :** The internal electrolyte may cause adverse environmental impacts

**The Danger of Burning and Exploding :** May occur fire or explosion in high temperature or short circuit.

### Section 4 first-aid measures

The valve-regulated lead-acid batteries are not hazardous with eye and skin contact under normal circumstance. In case of internal hazardous substance leaking, following measures should be taken if body parts contact with these substance:

**AFTER SKIN CONTACT:**

In case of contact, immediately wash skin with soap and copious amounts of water.

**AFTER EYE CONTACT:**

In case of contact, flush eyes with clean water for 15 minutes while lifting eye lids. Get prompt medical attention.

**AFTER INHALATION:**

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**AFTER INGESTION:**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

### Section 5 fire-fighting measures

**Characteristics of Hazard** : Toxic fumes; gases or vapors may evolve on burning.

**Hazardous Combustion Products** : CO, CO<sub>2</sub>, acid, hydrogen and oxygen gas

**Fire-extinguishing Methods and Extinguishing Media** : Carbon dioxide, dry chemical powder, or appropriate foam

**Attention in Fire-extinguishing** : The Firemen should put on anti-gas masks and full fire-fighting suits.

### Section 6 accidental release measures

When leakage of batteries happens, liquid could be absorbed with sands, earth, or other inert substance, and the contaminated area should be ventilated meantime. Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

### Section 7 handling and storage

**Handling:** don't handling the batteries in manner that allows terminals to short circuit

**Storage:** Store and used far away from heat, sparks, open flame, or other heat ignition sources, and under room temperature(<30°C) in ventilating and dehumidifying environments

### Section 8 exposure controls/personal protection

**Maximum Allowable Concentration:** No Standard available

**Engineering Controls:** no engineering controls are required for handling batteries that have not been damaged. Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses.

### Section 9 Physical and Chemical Properties

Not applicable

### Section 10 stability and reactivity

**Stability** : Stable under normal temperatures and pressures.

**Incompatibility** : oxidizing agents

**Conditions to Avoid** : Heat and open flame, short circuit, and water

**Hazardous polymerization** : Will not occur

**Decomposition Products** : CO, CO<sub>2</sub>, acid, hydrogen and oxygen gas

### Section 11 toxicological information

This product does not elicit toxicological properties during routine handling and use.

### Section 12 ecological information

**Ecological toxicity**: N/A

**Biodegradability**: N/A

**Non-biodegradability**: N/A

**Other hazardous**: The internal electrolyte may cause adverse environmental impacts

### Section 13 disposal

**Waste Treatment** : Recycle or dispose of in accordance with government, state & local regulations.

**Attention for Waste Treatment**: Deserted batteries couldn't be treated as ordinary trash. Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced, crushed or treated similarly. Best way is recycling.

## Section 14 transport information

Proper shipping name: N/A

Packing group: N/A

ICAO/IATA	IMDG CODE	DOT
Not- regulated	Not- regulated	Not- regulated
Can be shipped by air in accordance with International Air Transport Association(IATA),DGR Packing Instructions(PI), PI872 appropriate and Special Provision A67	International Maritime Organization(IMO) under Special Provision 238	Non-Spillable Battery complies with the provisions listed in 49 CFR 173.159(d), therefore must not be marked with an identification number or hazardous label and is not subject to hazardous shipping paper requirements.

Batteries must be securely packed to short-circuiting

## Section 15 regulatory information

**Regulatory information** : Recommendations on the transport of dangerous goods-model regulations(15th revised), IATA dangerous goods regulations, International Maritime Dangerous Goods Code, U.S. Hazardous Material Regulations

## Section16 other information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express 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.

