

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 1/11

### 1 - IDENTIFICATION

GHS Product identifier:	VLFSO 0,5% S
Other means of identification:	VLS7A1
Recommended use of the chemical:	Used as marine fuel.
Specific restrictions on use:	There are not known restrictions on use.
Supplier`s details:	Acelen <b>Address:</b> ROD BA 523, KM 4, MATARIPE, CEP: 43900-000 - BA - Brasil. <b>Phone number:</b> (71) 3511-8000 / (11) 5225-8900
Emergency phone number:	EMERGENCIall: 0800 729 2756 / (11) 94759-7282 (Whatsapp) (24h)

### 2 - HAZARD IDENTIFICATION

Classification of the substance or mixture:	Flammable Liquids - Category 4; Acute Toxicity - Oral - Category 5; Acute Toxicity - Inhalation - Category 4; Skin Corrosion/Irritation - Category 2; Skin Sensitization - Category 1; Germ Cell Mutagenicity - Category 1B; Carcinogenicity - Category 1A; Reproductive Toxicity - Category 2; Specific Target Organ Toxicity – Repeated Exposure - Category 2; Hazardous to the Aquatic Environment - Acute Hazard - Category 1; Hazardous to the Aquatic Environment - Chronic Hazard - Category 1.
Classification system adopted:	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.

#### GHS label elements, including precautionary statements

Pictograms:



Signal word: DANGER

Hazard statement(s):

- H227 Combustible liquid.
- H303 May be harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to the blood, to the thyme and to the liver through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary **PREVENTION:**

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 2/11

statement(s):

P203 Obtain, read and follow all safety instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P264 Wash hands thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.

**RESPONSE TO EMERGENCY:**

P301 + P317 IF SWALLOWED: Get medical help.  
 P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P317 Get medical help.  
 P318 IF exposed or concerned, get medical advice.  
 P319 Get medical help if you feel unwell.  
 P321 Specific treatment.  
 P332 + P317 If skin irritation occurs: Get medical help.  
 P333 + P317 If skin irritation or rash occurs: Get medical help.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P370 + P378 In case of fire: Use carbon dioxide (CO<sub>2</sub>), foam, water mist and powder to extinguish.  
 P391 Collect spillage.

**STORAGE:**

P403 Store in a well-ventilated place.  
 P405 Store locked up.

**DISPOSITION:**

P501 Dispose of contents and container in accordance with local regulations.

Other hazards which do not result in classification: The material has no other hazards.

### 3 - COMPOSITION/INFORMATION ON INGREDIENTS

**MIXTURE** Members of this category form a group encompassing diverse hydrocarbons with a wide range of molecular weights, carbon numbers (C7 to C50) and boiling points (121 to 600 °C). Petroleum hydrocarbons contain sulfur, nitrogen, oxygen and organometallic compounds.

Components contributing to the hazard: Fuel oil, residual (CAS 68476-33-5): 90 - 100 %;  
 Industrial secret 1: 1 - 5 % (Classification: H317; H315; H320; H340; H350; H304; H226; H302; H331; H400; H410; H335)<sup>1,2</sup>;  
 Hydrogen sulfide (CAS 7783-06-4): < 2.0 %;  
 Sulfur (CAS 7704-34-9): < 0.5 %.

<sup>1</sup> Contains ingredient classified as sensitizing.

<sup>2</sup> It does not have a CAS number because it is a mixture not registered in the Chemical Abstract Service database.

### 4 - FIRST-AID MEASURES

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 3/11

### Description of necessary first-aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the victim feels unwell, contact a TOXICOLOGICAL INFORMATION CENTER or a doctor. Bring this document.
Skin:	Wash exposed skin with sufficient amount of water to remove the material. Take off and isolate contaminated clothing and shoes. In case of skin irritation: contact a doctor. Bring this document.
Eye:	Wash carefully with water for several minutes. In case of use of contact lenses, remove them, if possible. Keep washing. If eyes irritation continues: Contact a doctor. Bring this document.
Ingestion:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse the victims mouth with water in abundance. If the victim feels unwell, contact a TOXICOLOGICAL INFORMATION CENTER or a doctor. Bring this document.
Most important symptoms/effects, acute and delayed:	May cause an allergic skin reaction with pruritus and dermatitis. Causes skin irritation with redness, pain and dryness. May be harmful if swallowed. Harmful if inhaled. May cause damage to the blood, liver and thyme through prolonged or repeated exposure.
Indication of immediate medical attention and special treatment needed, if necessary:	Avoid contact with the material to help the victim. Keep victim warm and quiet. Symptomatic treatment should comprise mainly supportive measures such as correction of electrolyte disturbances, metabolic, and respiratory support. In case of skin contact do not rub the affected area.

### 5 - FIRE-FIGHTING MEASURES

Extinguishing media:	Appropriate: carbon dioxide (CO <sub>2</sub> ), foam, water mist and powder. Inappropriate: water directly onto the burning material.
Specific hazards arising from the chemical:	Combustion of the material or its packaging can form irritating and toxic gases such as carbon monoxide and dioxide. Dangerous when exposed to excessive heat or other sources of ignition such as sparks, open flames or flames of matches and cigarettes, welding operations, pilot lights and electric motors. Can accumulate static charge by flow or agitation. Vapors from heated liquid can be ignited by static discharge. Vapors are heavier than air and tend to accumulate in low or confined areas, such as sewers and basements. Can travel great distances causing retrogression of the flame or new fires both in open environments in as confined ones. Containers may explode if heated.
Special protective actions for fire-fighters:	Use self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Containers and tanks involved in the fire should be cooled with water mist.

### 6 - ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Prevent sparks or flames. Do not smoke. Do not touch damaged containers or spilled material without the use of appropriate clothing. Avoid exposure to the material. Stay in a safe place, with wind from behind. Use personal protective equipment as described in Section 8.
For emergency responders:	Wear complete PPE with safety glasses, safety gloves, suitable protective clothing and closed shoes. In case of leakage, where exposure is high, it is recommended to use a suitable respiratory protection mask.
Environmental precautions:	Avoid that the spilled material reaches waterways or sewage system.
Methods and materials for containment and cleaning up:	Use water mist or vapor suppressing foam to reduce the dispersion of vapors. Use natural barriers or spill containment. Collect spilled material and put it into containers. Adsorb the remaining material with dried sand, vermiculite or any other inert material. Put the adsorbed material in appropriate containers and remove them to a safe place. Use tools that do not cause sparks to collect absorbed material. For final destination, proceed pursuant to Section 13 of this SDS. Large spill: confine the liquid into a dike away from the spills for later and proper disposition. Water mist can be used to reduce of vapors, but it wont prevent ignition in closed environments.

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 4/11

### 7 - HANDLING AND STORAGE

#### Precautions for safe handling

Precautions for safe handling:	Handle in a ventilated area or with a general local exhaust/ventilation system. Avoid formation of vapors and mists. Handling the material can result in electrostatic charge buildup. All ignition sources must be extinguished from areas during use. Use proper grounding procedures. Use personal protective equipment as described in section 8. Avoid contact with incompatible materials.
General hygiene:	Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom. Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.

#### Conditions for safe storage, including any incompatibilities

Technical measures for prevention of fire and explosion:	Keep away from heat, sparks, open flames and hot surfaces. - Do not smoke. Keep container tightly closed. Ground the container vessel and the receiver of the material during transfers. Only use anti-sparking tools. Avoid the accumulation of electrostatic charges. Use electrical equipment, ventilation and lighting explosion proof. Use personal protective equipment as described in Section 8.
Conditions for safe storage, including any incompatibilities:	Store in a well ventilated place, away from sunlight. Keep container closed. Keep away from high temperatures and ignition sources. It is not necessary addition of stabilizers and antioxidants to ensure the durability. This material may react dangerously with some incompatible materials as outlined in Section 10. Keep away from incompatible materials.
Packaging compatibilities:	Similar to the original packaging.
Inadequate packaging materials:	There are not known unsuitable material.

### 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Occupational exposure limit:	<p>The values below apply to workplaces.</p> <ul style="list-style-type: none"> <li>- <u>Indene:</u> OSHA - PEL - TWA: 10 ppm (45 mg/m<sup>3</sup>) (29 CFR 1926.55 Table 1; 29 CFR 1915.1000 Table Z-Shipyards) (CFR); NIOSH - REL - TWA: 10 ppm (45 mg/m<sup>3</sup>); ACGIH - TLV - TWA: 5 ppm.</li> <li>- <u>Hydrogen sulfide:</u> OSHA - PEL - Ceiling: 20 ppm. 50 ppm (PK) [10 min (U)] (29 CFR 1910.1000. Table Z-2; 29 CFR 1926.55 Table 1; 29 CFR 1915.1000 Table Z-Shipyards) (CFR); NIOSH - REL - Ceiling: 10 ppm (15 mg/m<sup>3</sup>) [10-minute]; ACGIH - TLV - TWA: 1 ppm; ACGIH - TLV - STEL: 5 ppm.</li> <li>- <u>Naphthalene:</u> OSHA - PEL - TWA: 10 ppm (50 mg/m<sup>3</sup>) (29 CFR 1910.1000 Table Z-1) (CFR); NIOSH - REL - TWA: 10 ppm (50 mg/m<sup>3</sup>); NIOSH - REL - STEL: 15 ppm (75 mg/m<sup>3</sup>); ACGIH - TLV - TWA: 10 ppm (*).</li> <li>- <u>1,3,5-trimethylbenzene:</u> NIOSH - REL - TWA: 25 ppm (125 mg/m<sup>3</sup>); ACGIH - TLV - TWA: 10 ppm.</li> </ul>
------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 5/11

- 1,2,4-trimethylbenzene:  
NIOSH - REL - TWA: 25 ppm (125 mg/m<sup>3</sup>);  
ACGIH - TLV - TWA: 10 ppm.

- 1,2,3-trimethylbenzene:  
NIOSH - REL - TWA: 25 ppm (125 mg/m<sup>3</sup>);  
ACGIH - TLV - TWA: 10 ppm.

- Trimethylbenzene:  
OSHA - PEL - TWA: 25 ppm (120 mg/m<sup>3</sup>) (29 CFR 1926.55 Table 1; 29 CFR 1915.1000 Table Z- Shipyards) (CFR);  
ACGIH - TLV - TWA: 10 ppm.

- 2-Phenylpropene:  
OSHA - PEL - Ceiling: 100 ppm; 480 mg/m<sup>3</sup>;  
NIOSH - REL - TWA: 50 ppm;  
NIOSH - REL - STEL: 100 ppm;  
ACGIH - TLV - TWA: 10 ppm.

CFR: See mentioned item in OSHA CFR;  
PK: Peak;  
U: Once only, if no other measurable exposure occurs;  
\*: Also absorbed through the skin.

**Biological limit:** - Naphthalene:  
ACGIH - BEI: Determinant: 1-Naphthol + 2 Naphthol. Sampling time: End of shift. Notation: Nq, Ns, H.

Nq: Biological monitoring should be considered for this compound based on the review; however, a specific BEI could not be determined due to insufficient data.  
Ns: The determinant is nonspecific, since it is also observed after exposure to other chemicals.  
H: The analytical method requires hydrolysis.

**Other limits and values:** - Naphthalene:  
NIOSH (IDLH): 250 ppm  
- 2-Phenylpropene:  
IDLH (NIOSH): 700 ppm.

**Appropriate engineering controls:** Provide ventilation combined with local exhaust, especially when product vapours/mists are formed. It is recommended to make emergency showers and eye wash facilities available in the work area. Maintain atmospheric concentrations of the constituents of the material below occupational exposure limits indicated.

### Individual protection measures, such as personal protective equipment (PPE)

**Eye/face protection:** Wide-view glasses with splash protection.

**Skin protection:** Safety shoes and safety clothing to protect the whole body from chemical splashes. Protective gloves against chemicals such as PVC.

**Respiratory protection:** Use of respirator with filter against vapors and organic mists is recommended for average exposures above half the TLV-TWA. In cases where exposure exceeds 3 times the TLV-TWA value, use a self-contained, full facepiece, air-supplied respirator (SCBA) operated in positive pressure mode.

**Thermal hazards:** It does not present thermal hazards.

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

**Aspect:** Liquid, viscous.

**Color:** Not available.

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02	Date: 06/13/2024	Pages: 6/11
Odour:	Characteristic of hydrocarbon.	
Melting point/freezing point:	< 30 °C (86 °F).	
Boiling point or initial boiling point and boiling range:	202 to 511 °C (395.6 to 951.8 °F).	
Flammability:	Combustible.	
Lower and upper explosion limit/flammability limit:	Upper: 6 % and Lower: 1 %.	
Flash point:	> 60 °C (140 °F) - Closed cup.	
Auto-ignition temperature:	250 to 537 °C (482 to 998.6 °F).	
Decomposition temperature:	Not available.	
pH:	Not applicable.	
Kinematic viscosity:	< 380 mm <sup>2</sup> /s at 50 °C (122 °F).	
Solubility(ies):	Immiscible in water. Soluble in organic solvents.	
Partition coefficient n-octanol/water (log value):	Not available.	
Vapour pressure:	0.02 to 0.791 kPa at 120 °C (248 °F).	
Relative vapour density:	Not available.	
Density and/or relative density:	Absolute density: 0.907 to 0.987 g/cm <sup>3</sup> at 20 °C (68 °F).	
Particle characteristics:	Not applicable.	
Other information:	Not applicable.	

### 10 - STABILITY AND REACTIVITY

Reactivity:	Reactivity is not to be expected under normal conditions of temperature and pressure.
Chemical stability:	Stable under normal temperature and pressure conditions.
Possibility of hazardous reactions:	Hydrogen Sulfide: Drizzle with powerful reducing agent. Risk of explosion during chemical reactions. Hydrogen sulfide arises from sulfides in contact with acids.
Conditions to avoid:	Elevated temperatures. Ignition sources. Contact with incompatible materials.
Incompatible material:	Acetaldehyde, alkaline metals, ammonia, anhydrides, carbon, copper, free radical initiators, halogen, hydrocarbons, hydrogen, metals, oxidizing agents, oxygen, phosphorus, rust, Strong acids and strong base.
Hazardous decomposition products:	In combustion, it can release polyaromatic hydrocarbons, in the form of particles or vapours. When heated, it can release hydrogen sulfide.

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 7/11

### 11 - TOXICOLOGICAL INFORMATION

Acute toxicity:	<p>Product not classified as acute toxic by dermal.                  May be harmful if swallowed.                  Harmful if inhaled.                  ATEmix Gases (4h): &gt; 20000 µ L/L (ppm).                  ATEmix Vapours (4h): &gt; 20 mg/L.                  ATEmix Dusts and mists (4h): 4,359 mg/L.                  ATEmix Oral: 3147,541 mg/kg.                  ATEmix Dermal: &gt; 5000 mg/kg.</p> <p>Information regarding to:                  - <u>Fuel oil, residual:</u>                  LD<sub>50</sub> Oral (rats): 4320 mg/kg.                  LC<sub>50</sub> Dusts and mists (rats, 4h): 4.1 mg/L                  - <u>Industrial secret 1:</u>                  ATEmix Oral: 3147,541 mg/kg.                  LC<sub>50</sub> Vapours (rats, 4h): &gt; 10 - ≤ 20 mg/L.                  - <u>Hydrogen sulfide:</u>                  LC<sub>50</sub> Gases (rats, 4h): 444 µ L/L (ppm).</p>
Skin corrosion/irritation:	Causes skin irritation with redness, pain and dryness.
Serious eye damage/irritation:	It is not expected to cause eye irritation.
Respiratory or skin sensitization:	<p>May cause an allergic skin reaction with pruritus and dermatitis.                  It is not expected to cause respiratory sensitization.</p> <p>The ingredients 2-Phenylpropene and 4-propyltoluene, classified as skin sensitizers - category 1, are in concentrations &lt; 1% and do not contribute to this classification of the product.</p>
Germ cell mutagenicity:	May cause genetic defects.
Carcinogenicity:	<p>May cause cancer.                  Information regarding to:                  - <u>Fuel oil, residual:</u>                  Animal test results indicate that the Heavy Fuel Oil components are carcinogenic.</p> <p>The ingredient Naphthalene, classified as carcinogenic - category 2, is in concentration &lt; 1% and does not contribute to this classification of the product.</p>
Reproductive toxicity:	<p>Suspected of damaging fertility or the unborn child.                  Information regarding to:                  - <u>Fuel oil, residual:</u>                  Animal studies showed decreased uterine pregnancy weight, increased resorptions, decreased live litter size and decreased fetal weight.</p>
STOT - Single exposure:	It is not expected to exhibit specific target organ toxicity by single exposure.
STOT - Repeated exposure:	May cause damage to the blood, liver and thyme through prolonged or repeated exposure.
Aspiration hazard:	It is not expected to present an aspiration hazard.

### 12 - ECOLOGICAL INFORMATION

Toxicity: Very toxic to aquatic life with long lasting effects.

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 8/11

Information regarding to:

- Fuel oil, residual:

NOEC (*Pseudokirchneriella subcapitata*, 72 h): 0.05 mg/L;

EC<sub>50</sub> (*Daphnia magna*, 48 h): 0.22 mg/L;

ErC<sub>50</sub> (*Pseudokirchneriella subcapitata*, 72 h): 0.32 mg/L;

LC<sub>50</sub> (*Oncorhynchus mykiss*, 96 h): 79 mg/L.

- Hydrogen sulfide:

LC<sub>50</sub> (Fish, 96 h): 0.002 mg/L;

EC<sub>50</sub> (*Daphnia sp.*, 48 h): 0.12 mg/L.

Persistence and degradability:

It is expected that the product presents persistence and it is not considered readily biodegradable.

Information regarding to:

- Fuel oil, residual:

Degradation rate: 11% in 28 days.

Bioaccumulative potential:

Presents high bioaccumulative potential in aquatic organisms.

Information regarding to:

- Fuel oil, residual:

log *K<sub>ow</sub>*: 2.7 to 6 (calculated).

Mobility in soil:

Not determined.

Other adverse effects:

In case of large spills, the product can be dangerous for the environment due to the possible formation of a film of the product on the surface of the water, decreasing the levels of dissolved oxygen.

The release of large amounts can cause undesirable environmental effects, such as the decrease in oxygen availability in aquatic environments due to the formation of an oily layer on the surface, coating and consequent suffocation of animals.

### 13 - DISPOSAL CONSIDERATIONS

#### Disposal methods

Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product.

Keep the product remains in its original and properly closed containers. Disposal should be performed as established for the product.

### 14 - TRANSPORT INFORMATION

**Road:** UN - United Nations: Model Regulations:

- Recommendations on the Transport of Dangerous Goods.

UN number: 3082

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrogen sulfide and Fuel oil, residual)

Primary risk class or division: 9

Subsidiary risk class or division: NA

Packing group: III

Environmental hazards: The product is considered dangerous for the environment for land transport.

**Railway regulations:** COTIF - Convention concerning International Carriage by Rail:

- Appendix C: RID - Regulations concerning the International Carriage of Dangerous Goods



In accordance with Globally Harmonized System of Classification and Labelling of Chemicals (GHS)- Chapter 1.5 and Annex 4

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02	Date: 06/13/2024	Pages: 9/11
UN number:	3082	by Rail.
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrogen sulfide and Fuel oil, residual)	
Primary risk class or division:	9	
Subsidiary risk class or division:	NA	
Packing group:	III	
Environmental hazards:	The product is considered dangerous for the environment in rail transport.	
<b>Sea:</b>	IMO - International Maritime Organization: • IMDG Code - International Maritime Dangerous Goods Code.	
UN number:	3082	
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrogen sulfide and Fuel oil, residual)	
Primary risk class or division:	9	
Subsidiary risk class or division:	NA	
Packing group:	III	
Environmental hazards:	The product is considered a marine pollutant.	
EmS:	F-A,S-F	
<b>Air:</b>	IATA - International Air Transport Association: • DGR - Dangerous Goods Regulation.	
UN number:	3082	
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrogen sulfide and Fuel oil, residual)	
Primary risk class or division:	9	
Subsidiary risk class or division:	NA	
Packing group:	III	
Environmental hazards:	The product is considered dangerous for the environment for air transport.	
Special precautions for user:	Not applicable.	
Maritime transport in bulk according to IMO instruments:	Consult regulations: • International Maritime Organization: MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; • International Maritime Organization: IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.	

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 10/11

### 15 - REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

### 16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

#### Texts of Hazard statements (H) mentioned in section 3:

H226 Flammable liquid and vapour;  
 H302 Harmful if swallowed;  
 H304 May be fatal if swallowed and enters airways;  
 H320 Causes eye irritation;  
 H331 Toxic if inhaled;  
 H335 May cause respiratory irritation;  
 H400 Very toxic to aquatic life.

#### Change control:

Version	Manufacture date	Changes
02	03/24/2023	Change in composition. Change in section: 2, 3, 11 and 12.

#### Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists;  
 ATEmix - Acute Toxicity Estimate of the mixture;  
 BEI - Biological Exposure Index;  
 CAS - Chemical Abstracts Service;  
 Ceiling - The concentration that should not be exceeded during any part of the working exposure.  
 EC<sub>50</sub> - Effective concentration of substance that causes 50 % of the maximum response;  
 ErC<sub>50</sub> - Effective concentration that results in a 50% reduction in the growth rate;  
 IDLH - Immediately Dangerous to Life or Health;  
 K<sub>ow</sub> - Octanol-water partition coefficient;  
 LC<sub>50</sub> - Lethal Concentration 50%;  
 LD<sub>50</sub> - Lethal Dose 50%;  
 NIOSH - National Institute for Occupational Safety and Health;  
 NOEC - No Observed Effect Concentration;  
 OSHA - Occupational Safety & Health Administration;  
 PEL - Permissible Exposure Limit;  
 REL - Recommended Exposure Limit;  
 STEL - Short Term Exposure Limit;  
 TLV - Threshold Limit Value;  
 TWA - Time Weighted Average;  
 UN - United Nations.

#### Bibliographic references:

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the

In accordance with Globally Harmonized System of  
Classification and Labelling of Chemicals (GHS)- Chapter 1.5  
and Annex 4

## SAFETY DATA SHEET

**Product:** VLFSO 0,5% S

Revision: 02

Date: 06/13/2024

Pages: 11/11

Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2023.

GHS - GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS. 10th rev. ed. New York and Geneva: United Nations, 2023.