

**FICHA DE DADOS DE SEGURANÇA DE PRODUTOS QUÍMICOS****Product Name:** Be89 BeVant**Review:** 01**Date of Last Review:** 06/05/2024

Página 1 de 9

<b>1. IDENTIFICATION</b>	
Product Name (commercial name):	Be8 BeVant
Product Name (chemical name):	Distilled Biodiesel
Internal Product Code:	FDS-2425
Main recommended uses for the product:	Fuel that partially or totally replaces fossil-based oil for diesel engines.
Company Name:	Be8 S/A
Address:	BR285, km294, s/nº - Distrito Industrial – Passo Fundo/RS – CEP 99.050-700
Contact Phone Number:	+55 (54) 2103-7100 / +55 (54) 2103-7221
Emergency Phone Number:	(54) +55 2103-7100
E-mail:	<a href="mailto:fispq@be8energy.com">fispq@be8energy.com</a>

<b>2. HAZARD IDENTIFICATION</b>	
Classification of the substance or mixture:	Product not classified as hazardous.
Classification system used:	ABNT NBR 14725
Other hazards not resulting in classification:	This product, when in contact with water, alters its physicochemical characteristics.
<b>APPROPRIATE LABELING ELEMENTS</b>	
Pictograms:	Not applicable.
Signal Word:	Not applicable.
Hazard Statements:	Not applicable.
Precautionary Statements:	<b>P270</b> Do not eat, drink or smoke when using this product; <b>P280</b> Wear protective gloves, protective clothing, eye and face protection; <b>P376</b> Stop leak if safe to do so; <b>P390</b> Absorb spillage to prevent material damage.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

#### Chemical Product: Substance

Ingredients Contributing to the Hazard	Chemical or Common Name	CAS Registry Number	Range of Concentration
	Fatty Acids, C16-18 and C18–unsaturated, methyl ester	67762-38-3	96,5 a 99, 8%

### 4. FIRST-AID MEASURES

Inhalation	Remove the victim to a well-ventilated area and monitor respiratory function. If necessary, apply artificial respiration and seek medical assistance.
Skin Contact	Wash with water and neutral soap, and remove the contaminated clothes. The contact of the skin with heated product may cause burns. Rinse with water for at least 15 minutes and seek medical assistance.
Eyes Contact	Do not wear contact lenses when handling chemical products. If eye contact occur, rinse with water. Substance considered irritating to the eyes. If irritation persists even after rinsing, seek medical assistance.
Ingestão	In case of ingestion, rinse the victim's mouth with plenty of water. Seek medical attention. DO NOT INDUCE VOMITING.
Most important symptoms and effects, both acute and delayed.	Nausea, sickness, diarrhea.
Protection of First-Aiders	For rescuing victims in case of a fire involving the product, use respiratory protective equipment. For all other first-aid assistance, use nitrile gloves, safety goggles, safety footwear, trousers, and a long-sleeved shirt.
Notes to Physician	Treat Symptomatically.

## 5. FIRE-FIGHTING MEASURES

Extinguishing Media	Suitable: Compatible with hydrocarbon-resistant foam, water mist, dry chemical powder, and carbon dioxide (CO <sub>2</sub> ). Not suitable: Direct water jets on the burning liquid.
Specific Hazards Arising from the Substance or Mixture	The combustion of the product may produce irritating and toxic gases such as carbon monoxide and carbon dioxide.
Protective Measures for Fire-Fighting Personnel	Containers involved in the fire must be cooled with water mist. Move containers away from the fire area if this can be done without risk. The use of positive-pressure self-contained breathing apparatus (SCBA) and full protective clothing is recommended.

## 6. ACCIDENTAL RELEASE MEASURES

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

For Non-Emergency Personnel	Isolate the spill area. Do not walk through the affected area, as the surface may be slippery.
For Emergency Responders	Wear safety boots, protective goggles, trousers, shirt and PVC gloves. Caution: The surface affected may be slippery.
Environmental Precautions	Prevent the spilled product from reaching watercourses and the sewage system.
Methods and Materials for Containment and Cleaning Up	Collect the spilled product and place it in an appropriate container. Absorb the remaining product using sand, sawdust, soil, or any other inert material. Gather the absorbed material, place it in suitable containers, and move them to a covered area, or ensure that the container is properly closed to prevent water ingress. If the spill has already reached watercourses or may reach them, provide containment barriers. For final disposal, proceed as indicated in Section 13 of this SDS.
Differences in Response to Large and Small Spills	The same actions are recommended for both large and small spills.

## 7. HANDLING AND STORAGE

### Appropriate Technical Measures for Handling

Precautions for Safe Handling	Avoid prolonged or repeated contact with the skin. Avoid inhalation of vapors and/or mists. When handling product drums, use appropriate equipment for handling/moving this type of packaging.
Hygiene Measure	Follow Good Personal Hygiene Practices, such as washing hands after handling the product and washing hands before meals. Eating/drinking/smoking is prohibited in work areas. Keep uniforms and PPE clean after use.

### Conditions for Safe Storage, Including Any Incompatibilities

Fire and Explosion Prevention	The Product isn't classified as flammable. However: Do not perform welding/cutting work on tanks/drums/pipelines that contained the product without first monitoring the area for the presence of gases. Do not smoke while handling the product. Do not expose the product to flames/sparks.
Adequate Conditions	Keep containers closed and properly labeled. Store the packages in an area with flooring, roofing, and spill containment. When stored in tanks, ensure that the tank is clean and dry and that it has containment dikes to prevent spills. Do not expose the product to direct sunlight.
Compatibles Packaging	Aluminum, steel, fluorinated polyethylenes, glass, and fiberglass. Compatibles components and materials: Viton, Nylon, Teflon, and fluorinated plastics.
Incompatibles Packaging	Materials composed of nitrile rubber, polypropylene, polyvinyl, and Tygon. Note: certain metals may affect biodiesel by accelerating the oxidation process and creating insoluble substances. Contact of the product with metals such as lead, tin, brass, bronze, and zinc significantly increases sediment formation in biodiesel.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Specific Control Parameters

Occupational Exposure Limits:

Chemical or Common Name	TLV-TWA (ACGIH, 2020)	TLV-STEL (ACGIH, 2020)	LT (NR15, 2014)
Fatty acids, C16-18 and C18–unsaturated, methyl ester	No established limit	No established limit	No established limit
Biological Indicators	Biological limits not established.		
Engineering Control Measures	Provide an emergency shower and eyewash station in the product handling area. Ensure adequate ventilation when handling is performed in enclosed spaces.		

### Personal Protective Measures

Eye/Face Protection	Protective Goggles
Skin Protection	PVC Gloves, safety boots, trousers, long-sleeved shirt.
Respiratory Protection	If, during the handling of the heated product, biodiesel mists are formed, use a respirator approved for organic vapors.
Thermal Hazards	No thermal hazards are present.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, form and color)	Clear liquid, free of impurities.
Odor	Mild Odor
Odor Limit	Data not available.
pH	Data not available.
Melting Point	Data not available.
Freezing Point	Range of $-3\text{ }^{\circ}\text{C}$ to $14\text{ }^{\circ}\text{C}$ .
Initial Boiling Point and Boiling Range	$\geq 344,7\text{ }^{\circ}\text{C}$ and $\leq 354,3\text{ }^{\circ}\text{C}$ – (101,3 kPa)
Flash Point	Minimum $101.0\text{ }^{\circ}\text{C}$
Evaporation Rate	Data not available.
Flammability (solid or gas)	$261\text{ }^{\circ}\text{C}$ +/- $5^{\circ}\text{C}$ .
Lower Flammability or Explosive Limit	Data not available.
Upper Flammability or Explosiveness Limit	Data not available.
Vapor Pressure	$4,20\text{ hPa}$ a $25\text{ }^{\circ}\text{C}$ .
Vapor Density	Data not available.
Relative Density	$0,8750$ a $0,8820\text{ g/cm}^3$ to $20\text{ }^{\circ}\text{C}$ .

Solubility	Insoluble in water.
Partition coefficient -n- octanol/water	Log Pow: 5,47
Autoignition Temperature	Data not available.
Kinematic Viscosity at 40°C	3,0 a 6,00 mm <sup>2</sup> /s.

## 10. STABILITY AND REACTIVITY

Reactivity	The product undergoes reactions when in contact with incompatible substances. It affects copper-based materials (for example, bronze) and also affects zinc, tin, lead, and cast iron.
Chemical Stability	The product is stable provided it is not in contact with incompatible substances.
Possibility Hazards Reactions	Reacts with peroxides, hypochlorite, copper sulfate, sodium nitrate, sodium carbonate.
Conditions to Be Avoided	Contact with incompatible substances. Product exposed directly to sunlight. Product exposed to moisture. Contact of the product with ignition sources.
Incompatible Materials or Substances	Strong oxidizing agents.
Dangerous Decomposition Products	In case of combustion, toxic gases such as carbon monoxide and carbon dioxide are released.

## 11. TOXICOLOGIC INFORMATION

Acute Toxicity	Data do not indicate acute toxicity for this substance.
Skin Corrosion/Irritation	Substance not considered irritating to the skin.
Serious Eye Injuries/Eye Irritation	Substance irritating to the eyes.
Respiratory or Skin Sensitization	No data were found regarding the aspiration hazard of this substance.
Mutagenicity in Germ Cells	The substance does not affect growth, fertility and reproductive performance.
Carcinogenicity	According to available data, the substance is not considered carcinogenic.
Reproductive Toxicity	The substance does not exhibit any effects in reproductive screening at doses up to 1000 mg/kg.
Specific Target Organ Toxicity – Repeated Exposure	Data not available.
Aspiration Hazard	Data not available.

## 12. ECOLOGICAL INFORMATION

### Environmental effects, behavior, and product impacts

Ecotoxicity:	EC50: After a 72-hour incubation period, a 50% inhibition of algal growth occurs at a concentration of 73.729 mg/L of the substance.
Persistence and Degradability:	Data not available.
Bioaccumulative Potential:	Data not available..
Ground Mobility:	Data not available.
Other Adverse Effects:	Data not available.

## 13. CONSIDERATIONS ON TREATMENT AND DISPOSAL







### Recommended methods for final disposal:

Product:	Check local legislation for waste disposal and transportation. Small quantities of the product may be absorbed with sawdust, sand, and/or other inert absorbent material and sent to licensed landfills. For large quantities where absorption is not feasible, seek companies that handle treatment and disposal of liquid waste.
Product Residues:	Keep product residues in their original, properly closed containers. Disposal must be carried out as established for the product.
Used Packaging:	Never reuse packaging. They must be sent for decontamination by licensed companies or disposed of in licensed industrial landfills.
PPE required for waste treatment and disposal:	Use the same PPE described in Section 8 of this SDS.

## 14. TRANSPORTION INFORMATION

### National and International Regulations

Road Transport:	Resolution No. 5,232 of December 14, 2016, of the National Land Transport Agency (ANTT) – Approves the Supplementary Instructions to the Regulation for the Land Transport of Dangerous Goods.
ONU Number	3082
Proper Shipping Name	Environmentally Hazardous Substance, Liquid, N.O.S.
Main Risk Class/Subclass	9
Subsidiary Risk Class/Subclass	NA
Risk Number	90
Packaging Group	III
Environmental Hazard	This product alters the physical and chemical characteristics of water.

Risk Label	 
Waterway Transport	IMO – International Maritime Organization – IMDG Code;
ONU Number	Not classified as hazardous under transport regulations
Proper Shipping Name	Not applicable.
Main Risk Class/Subclass	Not applicable.
Subsidiary Risk Class/Subclass	Not applicable.
Risk Number	Not applicable.
Packaging Group	Not applicable..
Environmental Hazard	Not applicable.
Rótulo de Risco	 
Risk Label	IATA – International Air Transport Association; DGR – Dangerous Goods Regulations;
ONU Number	3082
<u>Nome Adequado para Embarque</u>	Substância ambientalmente perigosa, líquida, n.o.s.
Proper Shipping Name	9
<u>Exception quantity</u>	E1
Packaging Group	III
Environmental Hazard	Diversos, Ambientalmente Perigosos
Risk Label	 

## 15. REGULATORY INFORMATION

### Specific safety, health and environmental regulations for the product

MTE – Regulatory Standard No. 26.

ANTT Resolution No. 5,947 of June 1, 2021 – Updates the Regulation for the Road Transport of Dangerous Goods and approves its supplementary instructions, and provides other measures.

Law No. 12,305 of August 2, 2010 – National Solid Waste Policy.

Decree No. 7,404 of December 23, 2010.

Federal Decree No. 2,657 of July 3, 1998.

INMETRO Ordinance No. 397 of August 21, 2019 – Improves the instructions for completing inspection records in the area of dangerous goods.

NR 15 – Annex No. 11 of Ministerial Ordinance No. 1,297 of August 13, 2014.

ABNT NBR 14725 – Chemicals – Information on Safety, Health and the Environment.

Dangerous Goods Regulations (DGR) – 2022.

Attention should be paid to the possible existence of local regulations.

The land transport legislation referenced in Section 14 applies exclusively to the National territory (Brazil). It is the responsibility of the importer to assess local legislation for transport purposes and to prepare a new SDS based on the regulations of their jurisdiction.

## 16. OTHER INFORMATION

### Important information, but not specifically described in the previous sections.

This SDS was prepared based on the current knowledge of the chemical product and provides information regarding protection, safety, health, and the environment. It is emphasized that the handling of any chemical substance requires the user's prior knowledge of its hazards. It is the responsibility of the company using the product to provide training to its employees and contractors regarding the possible risks associated with the product.

This substance is considered UVCB – (Substance of Unknown or Variable Composition, Complex Reaction Products or Biological Materials), substances of unknown or variable composition, complex reaction products or biological materials.

#### Legendas e abreviaturas:

CAS – *Chemical Abstracts Service*

ACGIH – *American Conference of Governmental Industrial Hygienists*

TLV – *Threshold Limit Value*

TWA – *Time Weighted Average*

STEL – *Short Term Exposure*

Level LT – *Limite de Tolerância*

NR – *Norma Regulamentadora*

O&G – *Óleos e Graxas*

Tp – *Temperatura pico*

DL50 – *Dose administrada que resulta em morte de 50% dos animais de experimentação.*

EPI – *Equipamento de proteção individual.*

ANTT – *Agência Nacional de Transporte Terrestre.*

#### Bibliografia:

EUROPE, ECHA, EUROPEAN CHEMICALS AGENCY. Information on chemicals. Disponível em: <<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances> >. Acesso em: 23 Ago 2016.

[ACGIH] AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS.

TLVs e BEIs – Limites de Exposição Ocupacional para Substâncias Químicas e Agentes Físicos & índice Biológico de Exposição – Ed. 2020.