

Safety Data Sheet

STYROPEK® BF SERIES

Revision date: 04/26/2024

Version: 4

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1. Identification

Product name

STYROPEK® BF SERIES

BF095/BF195/BF295, BF395

Recommended use and restriction on use:

For industrial processes only. Plastic containing foaming agent for foam production.

Details of the supplier of the safety data sheet

Company:

Styropek EPS do Brasil LTDA

Av. Brasil, 791- Prédio B 101. Guaratinguetá – SP, Brazil

SDS Email: product.stewardship@styropek.com

Telephone: +55 12 3128 1590 / 0800 0011 2273

Emergency telephone number

24 Hour Emergency Response Information

0800-0112273 / +55 12 3128-1590

Other means of identification

Commercial name: Styropek BF

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2. Hazard(s) identification

Hazard classification of the chemical product: Product not classified as hazardous by the classification system used.

Appropriate labeling elements: NA.

Precautionary recommendations: Wash hands after handling the product. Do not eat, drink, or smoke during product handling. It is recommended to use appropriate Personal Protective Equipment (PPE) during product handling. Obtain information about the product before handling. Store the product in a suitable location. In case of emergency, follow the instructions on the Safety Data Sheet (SDS).

Other hazards which do not result in GHS classification

The product releases a flammable hydrocarbon. Vapors can form explosive and flammable mixtures with air during use. During use, it may form a flammable/explosive vapor-air mixture. The product releases pentane, a flammable vapor. Maintain adequate ventilation during processing and use. High concentrations of dust or powder in the air can form explosive mixtures with air.

3. Composition / Information on ingredients

Chemical name	CAS number	Content (w/w)
Pentane	109-66-0	≤ 8 %

4. First-Aid measures

Ingestion: Do not induce vomiting. Rinse mouth of exposed person with water. If feeling unwell, seek medical advice.

Skin contact: Wash exposed skin with plenty of water to remove the material. If irritation occurs: seek medical advice.

Eyes contact: Rinse carefully with water for several minutes. If wearing contact lenses, remove them if easy to do so. If eye irritation occurs: seek medical advice.

Inhaled: Remove the exposed person to a ventilated area and have them rest. Seek medical assistance.

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Most important symptoms/effects, acute and delayed

Symptoms: Direct contact with the product may cause mild eye irritation with tearing and redness, due to mechanical effects. No adverse effects are expected from contact with the product.

Indication of immediate medical attention and special treatment needed

Treatment: If necessary, provide symptomatic treatment. Antidote: No specific antidote known.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Carbon dioxide (CO₂), foam, water mist, and chemical powder (PQS).

Unsuitable extinguishing media: Direct water jets.

Specific hazards of the mixture or substance: The combustion of the chemical product or its packaging can produce irritating and toxic gases such as aliphatic hydrocarbons, carbon monoxide, and carbon dioxide. Vapors may be heavier than air and tend to accumulate in low or confined areas, such as sewers and basements. Flammable concentrations of the propellant may form in closed containers. Burning generates a large amount of soot.

Firefighting team protection measures: Use self-contained breathing apparatus (SCBA) with positive pressure and full 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: Isolate the leak from ignition sources preventively. Risk of slipping due to the presence of spilled product on the floor, making it slippery. Interrupt or stop the source of the leak. Ensure adequate ventilation. Do not smoke. Avoid contact with the product. Avoid staying in trenches and confined spaces; consider the direction of the wind. Use personal protective equipment as described in section 8.

For emergency responders: Use full PPE including safety goggles, safety gloves, appropriate protective clothing, and closed-toe shoes. In case of a large leak where exposure is significant, the use of appropriate respiratory protective masks is recommended.

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Environmental precautions: Prevent the spilled product from reaching watercourses and sewer systems.

Methods and material for containment and cleaning up: Collect the product with a clean shovel or another tool that does not disperse the product. Use antistatic tools. Place the material in appropriate containers and remove them to a safe location. Dispose of in a well-sealed container. For final disposal, follow Section 13 of this SDS.

Differences in action for large and small leaks: For large quantities: Collect with vacuum equipment approved for use in hazardous areas. Dispose of in a well-sealed container. Ensure adequate ventilation. Avoid dust formation.

7. Handling and storage

Precautions for safe handling: Handle in a ventilated area or with a general ventilation/exhaust system. The propellant agent contained in the preparation and included in the polymeric beads is slowly released by the preparation under the indicated handling and storage conditions. Avoid exposure to the product as effects may not be immediately felt. Avoid dust formation. Avoid inhalation of dust. Fire extinguishers should be kept nearby. Keep away from heat.

Avoid all sources of ignition. Open and depressurize containers carefully. Consume the contents of opened packages quickly. Reopen used containers with caution. Provide good ventilation when using large quantities. Use personal protective equipment as described in section 8. Containers in the emptying operation must be grounded. It is advisable to ground all parts of the installation that are conductive. The transportation speed of the product should not exceed 8 m/second. All parts of the installation and working equipment must be electrically connected and grounded. Electrical continuity should be checked at regular intervals.

During transport in a Silo Truck, the product is covered with nitrogen. Do not enter! Control of the enclosure air is necessary. Use the product as much as possible in closed equipment. Protect the container opening with a metal cover.

Hygiene measures: Wash hands and face thoroughly after handling and before eating, drinking, smoking, or using the restroom. Contaminated clothing should be changed and washed before reuse. Remove contaminated clothing and protective equipment before entering food areas.

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Fire and explosion prevention:	Atmosphere monitoring is necessary to prevent the formation of explosive mixtures. Keep away from ignition sources, heat, sparks, open flames, and hot surfaces. Do not smoke. Avoid the accumulation of electrostatic charge. The material may become electrostatically charged: during storage and transfer, ground the containers. Use anti-static tools. Provide good ventilation of the premises, including at ground level (vapors are heavier than air). Use explosion-proof electrical, ventilation, and lighting equipment.
Proper storage conditions:	Store in a cool, dry, well-ventilated area away from sunlight. Protect from heat. Store protected from frost and moisture. Keep the container closed. Protect closed containers from temperature increase to avoid pressure buildup. Protect containers from physical damage. Keep tanks under inert gas. No addition of stabilizers and antioxidants is necessary to ensure product durability.
Suitable packaging materials:	Store only in the original container.
Unsuitable packaging materials:	No unsuitable materials are known for this product.

8. Exposure controls and personal protection

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values
Pentane	MTP, NR15, LT	470 ppm 1400 mg/m ³
	ACGIH, TLV, TWA	1000 ppm
	IDLH (NIOSH)	1500 ppm (10% LEL)

Biological indicators: Not established.

Appropriate engineering controls: Promote mechanical ventilation and direct exhaust system to the outside environment. These measures help reduce exposure to the product. Keep atmospheric concentrations of product constituents below indicated occupational exposure limits.

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General information:	Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.
Face/Eye protection:	Protective goggles.
Body protection:	Appropriate protective clothing and anti-static shoes. Suitable protective gloves.
Respiratory protection:	Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information. Self-contained breathing apparatus. Air supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
Hygiene measures:	Avoid inhalation of dust and vapors. Use effective control measures and PPE to maintain worker exposure to concentrations that are below these limits. Provide eyewash station and safety shower. Provide for sufficient ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Thermal hazards:	No thermal hazards presented.

9. Physical and chemical properties

Physical state:	Solid
Form:	Beads
Odor:	Characteristic
pH:	Not applicable
Melting point/freezing point:	≅ 70 °C
Initial boiling point and boiling range:	No data available
Flash point:	-56 °C closed cup (pentane)
Evaporation rate:	No data available
Flammability:	No data available
Lower/Upper flammable or explosive limit:	No data available
Vapor pressure:	No data available
Vapor density:	2.5 (air = 1)
Relative density:	No data available

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Solubility:	Insoluble in water. Soluble in aromatic hydrocarbons, ketones, and organic solvents.
Partition coefficient (n-octanol/water) (log Pow):	No data available
Auto-ignition temperature:	285 °C
Decomposition temperature:	≅ 220 °C
Viscosity:	No data available
Bulk density:	≅ 600 kg/m ³ a 20 °C.
Absolute density:	1.02 a 1.05 g/cm ³ a 20 °C

10. Stability and reactivity

Reactivity:	No reactivity is expected under normal temperature and pressure conditions.
Stability:	The product is stable under normal temperature and pressure conditions.
Possibility of hazardous reactions:	Increased temperature enhances the risk of propellant release. Formation of explosive gas/air mixtures.
Conditions to avoid:	High temperatures (> 70 °C), ignition sources: heat, sparks, open flame. Contact with incompatible materials. Direct sunlight. Electrostatic charge.
Incompatible materials:	Explosives.
Hazardous decomposition products:	Decomposition can generate pentane and styrene monomer.

11. Toxicological information

Acute toxicity:	The product is not classified as acutely toxic via inhalation. ETAm Vapors (4h): > 20 mg/L.
Corrosion/Irritation to skin:	Contact with the heated product can cause burns.
Serious eye damage/Eye irritation:	Direct contact with the product can cause mild eye irritation with tearing and redness due to mechanical effects.

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Respiratory or skin sensitization:	It is not expected that the product will cause respiratory or skin sensitization.
Mutagenicity in germ cells:	It is not expected that the product will exhibit mutagenicity in germ cells.
Carcinogenicity:	It is not expected that the product will exhibit carcinogenicity.
Reproductive toxicity:	It is not expected that the product will exhibit reproductive toxicity.
Specific Target Organ Toxicity (Single Exposure):	Contact with the product can cause headaches, dizziness, and coordination difficulties.
Specific Target Organ Toxicity (Repeated Exposure):	It is not expected that the product will exhibit specific target organ toxicity from repeated exposure.
Hazardous to aspiration:	It is not expected that the product will present a hazard through aspiration.

12. Ecological information

Ecotoxicity: The product contains substances classified as hazardous to the environment. However, there is a high probability that the product is not extremely harmful to aquatic organisms. No toxic effects occur within the solubility range. It is not expected that the product will exhibit ecotoxicity.

EC50 (Daphnia magna, 48h): > 100 mg/L; CEr50 (Desmodesmus subspicatus, 72h): > 100 mg/L.

The product is poorly soluble in the medium in which the tests were conducted. An elution was tested. No toxic effects occur within the solubility range. The product was not tested. The assessment is derived from substances/products with similar structure or composition.

Persistence and degradability

Soil mobility: Not determined.

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Bioaccumulative potential: Given the consistency and insolubility of the product in water, bioavailability is unlikely.

Additional information: The product is, according to desired stability, hardly biodegradable. The product was not tested. The indication derives from the substance's structure. The product is practically insoluble in water and can thus be mechanically separated from water in suitable effluent treatment plants.

Other adverse effects: No other environmental effects are known for this product.

13. Disposal considerations

Product: Treatment and disposal must be specifically evaluated for each product. Federal, state, and municipal regulations must be consulted, including Law No. 12,305 of August 2, 2010 (National Solid Waste Policy).

Product residues: Keep product residues in their original and properly closed containers. Disposal should be carried out as established for the product.

Used packaging: Do not reuse empty containers. These may contain residues of the product and should be kept closed and disposed of appropriately as established for the product.

14. Transport information

ANTT

Risk class or subclass primary: 9
Packaging group: III
UN number: 2211
Risk number: 90
Proper shipping name: POLYMERIC BEADS, EXPANDABLE
Subsidiary risk class or subclass: NA

DPC

Risk class or subclass primary: 9
Packaging group: III
UN number: 2211
EmS: F-A. S-I
Proper shipping name: POLYMERIC BEADS, EXPANDABLE
Subsidiary risk class or subclass: NA
Environmental hazard: The product is not considered a marine pollutant for transport.

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ANAC

Risk class or subclass primary:	9
Packaging group:	III
UN number:	2211
Proper shipping name:	POLYMERIC BEADS, EXPANDABLE
Subsidiary risk class or subclass:	NA
Specific precautionary measures and conditions:	Not applicable

15. Regulatory information

Specific regulations for the chemical product:	Federal Decree No. 10,088, dated November 5, 2019. ABNT-NBR 14725 Standard. Regulatory Standard No. 26 (Safety Signaling) of the Ministry of Labor and Social Security.
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16. Other information

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care® is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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