

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styropek

Page: 1/11

### 1. Identification

#### Product identifier

## BIOPEK CHP SERIES

CHP140, CHP240, CHP320, CHP340, CHP440

#### Recommended use and restriction on use:

Recommended use: for industrial processing only; expanding-agent containing plastic to produce foam plastics.

The "recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

##### Company:

##### Styropek Chile S.P.A.

Camino a Quintero N°201 Quintero, Valparaíso, Chile

SDS Information Email: [product.stewardship@styropek.com](mailto:product.stewardship@styropek.com)

Telephone: +56 9 49278578

**Manufacturer / Importer:** Styropek Chile S.P.A.

#### Emergency telephone number

Emergency in Chile: +56 9 42836720

Toxicological information in Chile: +56 9 49278578

#### Other means of identification

Chemical name: Polystyrene  
Commercial name: Biopek CHP Series  
Chemical family: Polymer  
Synonyms: Expandable Polystyrene

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

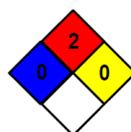
## 2. Hazard(s) identification

**Classification according to NCh 382:** Risk class: 9  
Packing group: III  
UN number: 2211

**Distinctive according to NCh 2190:**



**Distinctive according to NCh 1411/4:**



**Classification according to GHS:** The product is not classified according to GHS criteria.

**GHS Label:** The product does not require any hazard warning label according to GHS criteria.

**Specific classification:** Not applicable.

**Specific distinctive:** Not applicable.

**Hazard description:** Not applicable.

**Description of specific hazards:** Not applicable.

**Hazard classification:** Not classified.

### Precautionary Statements

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

P233: Keep container tightly closed.

P243: Take precautionary measures against static discharge.

P403 + P235: Store in a well-ventilated place. Keep cool.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 3/11

### Other hazards which do not result in GHS classification

In use may form flammable/explosive vapor-air mixture. Product releases pentane, a flammable vapor. Maintain adequate ventilation during processing and use. High concentration of airborne powders or dust may form explosive mixture with air. May cause some eye irritation which should cease after removal of the product.

Warning: Flammable. Releases flammable vapor. May cause eye, skin and respiratory tract irritation. Prolonged or repeated contact may dry skin and cause irritation. Contains material which may cause kidney damage based on animal data. Eye wash fountains and safety showers must be easily accessible. Use with local exhaust ventilation. Avoid contact with the skin, eyes and clothing.

### 3. Composition / Information on ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Chemical name	CAS number	Content (w/w)
Isopentane	78-78-4	>= 0.3 - < 3.0 %
Pentane	109-66-0	>= 3.0 - < 5.5 %

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Chemical name	CAS number	Content (w/w)
Polystyrene	9003-53-6	> = 90.0 %
Pentane	109-66-0	< = 3.0 - < 7.0 %

### 4. First-Aid measures

Ingestion: No hazards anticipated. Rinse mouth and then drink plenty of water. If difficulties occur seek medical attention.

Skin contact: Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

Eyes contact: In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

### Most important symptoms/effects, acute and delayed

Symptoms: Headache, dizziness, incoordination, dazed state, eye irritation, skin irritation. Hazards: no hazards anticipated.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 4/11

### Indication of immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## 5. Fire-fighting measures

### Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Dry powder, water spray, carbon dioxide, foam.

Unsuitable extinguishing media for safety reasons: Water jet.

Hazards during fire-fighting: Carbon monoxide, carbon dioxide, styrene, aliphatic hydrocarbons  
The substances/groups of substances mentioned can be released in case of fire.

### Special protective equipment and precautions for firefighters

Special protective equipment for firefighters: Wear self-contained breathing apparatus and chemical-protective clothing.

Further information: When large quantities of solid substance/product are involved, melting may occur, in which condition, application of water may cause extensive scattering of molten material. Dense smoke produced during combustion may obscure vision. To prevent re-ignition of interior, target center of fire with large amounts of water. Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

## 6. Accidental release measures

Further accidental release measures: High risk of slipping due to leakage/spillage of product. Shut off or stop source of leak. Substance/product can form explosive mixture with air.

Personal precautions, protective equipment, and emergency procedures: Sources of ignition should be kept well clear. Ensure adequate ventilation. Note that this gas is heavier than air and can spread along the ground in the direction of the wind. Beware of pits and confined spaces. Use antistatic tools. Vapors are heavy and collect in low areas. Avoid all sources of ignition: heat, sparks, open flame.

Methods and material for containment and cleaning up: For small amounts: sweep/shovel up. Pack in tightly closed containers for disposal.

For large amounts: pick up with vacuum equipment approved for use in hazardous locations. Pack in tightly closed containers for disposal. Ensure adequate ventilation. Dispose of absorbed material in accordance with regulations. Avoid raising dust.

Environmental precautions: Do not allow to enter drains or waterways. Discharge into the environment must be avoided.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 5/11

### 7. Handling and storage

Protection against fire and explosion:

The product is combustible. Vapors may form ignitable mixture with air. Keep away from heat. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Containers should be earthed during decanting operations. It is recommended that all conductive parts of the machinery are grounded. All parts of the plant and equipment should be electrically bonded together and grounded. Electrical continuity should be checked at regular intervals. Higher line velocity can increase the build-up of static electric charge. Avoid flammable gas mixtures. Ensure an efficient ventilation (at least one air change per hour). Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Because of danger of explosion, avoid vapors reaching the cellar, sewage water and pits. Empty containers may contain flammable residue.

Conditions for safe storage, including any incompatibilities:

Protect against heat. Keep away from sources of ignition No smoking. Keep only in the original container. Keep container tightly sealed. Protect against moisture. Avoid direct sunlight. Protect containers from physical damage. The authority permits and storage regulations must be observed. Store protected against freezing. Keep tanks under inert gas. Air monitoring should be used to alert any buildup of explosive mixtures. Equipment to be installed in an environment with potentially explosive atmospheres should conform to the requirements of ATEX Directive 94/9/EC. Ventilate freight container with open door for 30 minutes before unloading.

Storage stability:

Keep container tightly closed and dry. Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Substance/product can accumulate a static charge which could act as an ignition source. Wear non-sparking safety shoes. Ground conductive equipment properly to prevent electrostatic discharge. Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Higher line velocity can increase the build-up of static electric charge.

### 8. Exposure controls and personal protection

#### Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
n-Pentane	TWA	600 ppm 1800 mg/m <sup>3</sup>	NIOS Pocket Guide to Chemical Hazards (US)

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Chemical Identity	Type	Exposure Limit Values	Source
n-Pentane	STEL	760 ppm 2250 mg/m <sup>3</sup>	NIOS Pocket Guide to Chemical Hazards (US)
	REL	120 ppm 350 mg/m <sup>3</sup>	
	Ceil Time	610 ppm 1800 mg/m <sup>3</sup>	

Advice on system design:

Provide local exhaust ventilation to control vapors/mists.

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.

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.

Respiratory protection:

Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided. Wear respiratory protection if ventilation is inadequate. Breathing protection if dusts are formed.

Hand protection:

Non-static gloves (e.g. of leather).

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Anti-static protective clothing, antistatic safety shoes.

### 9. Physical and chemical properties

Physical state:	Solid
Form:	Beads
Color:	Brown
Odor:	Faint specific odor
pH:	Not applicable
Softening point:	Approx. 70 °C

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 7/11

Onset of boiling:	The substance / product decomposes, therefore not determined
Sublimation point:	Not applicable
Flash point:	Vapors are flammable
Flammability:	Not highly flammable (UN Test N.1 ready combustible solids)
Flammability of aerosol:	Not applicable, the product does not form flammable aerosols
Lower explosion limit:	Product not examined: value is calculated from the data of the components.
Upper explosion limit:	Product not examined: value is calculated from the data of the components.
Autoignition temperature:	285 °C (DIN 51794)
Density:	Approx. 1.02 – (20 °C), 1.05 g/cm <sup>3</sup>
Bulk density:	Approx. 600 kg/m <sup>3</sup> (20 °C)
Vapor density:	2.5 Heavier than air
Vapor pressure:	Not applicable
Miscibility in water:	Immiscible
Solubility (quantitative):	No applicable information available
Solubility (qualitative):	Soluble. Solvent(s): aromatic hydrocarbons, organic solvents, ketones
Partition coefficient (n-octanol/water) (log Pow):	Not applicable
Autoignition:	Not self-ignition
Viscosity, dynamic:	Not relevant
Evaporation rate:	The product is a non-volatile solid

### 10. Stability and reactivity

Reactivity:	No hazardous reactions if stored and handled as prescribed/indicated, vapors may form explosive mixture with air.
Oxidizing properties:	Not fire propagating.
Oxidizing properties:	Not an oxidizer.
Chemical stability:	The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions:	Formation of explosive gas/air mixtures.
Conditions to avoid:	Avoid all sources of ignition: heat, sparks, open flame. Avoid direct sunlight. Avoid electro-static discharge.
Incompatible materials:	Explosive substances according UN transport regulations class 1, propellant release will be boosted with increasing temperature.
Hazardous decomposition products:	Possible thermal decomposition products: pentane, styrene monomers, heated product evolves combustible vapors.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styropek

Page: 8/11

### 11. Toxicological information

Primary routes of exposure: Routes of entry for solids and liquids are ingestion and inhalation but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

#### Acute toxicity (list all possible routes of exposure)

Assessment of acute toxicity: Contact with molten product may cause thermal burns.

Oral: Type of value: LD50  
Value: > 2,000 mg/kg

Dermal: Type of value: LD50  
Value: > 2,000 mg/kg

Inhalation: Type of value: LC50  
Value: > 5 mg/L

Irritation/Corrosion No irritation is expected under intended use and appropriate handling. No data available concerning irritating effects.

Eye/Skin: Non-irritant.

Sensitization: There is no evidence of a skin-sensitizing potential. Result: Non-sensitizing.

#### Chronic Toxicity/Effects

Repeated dose toxicity:

Specified substance(s):

Isopentane Chronic overexposure has been shown to cause adverse kidney effects in experimental animals.

Genetic toxicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 9/11

Reproductive toxicity:	Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.
Other information	No reports of ill effects provided product was correctly handled and processed.
Specified substance(s):	
Pentane	Has a degreasing effect on skin.
Symptoms of exposure:	Headache, dizziness, incoordination, dazed state, eye irritation, skin irritation.

## 12. Ecological information

### Toxicity

Aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms. No toxic effects occur within the range of solubility.

Specified substance(s):

Pentane Acutely toxic for aquatic organisms.

Aquatic invertebrates: EC50 (48 h) > 100 mg/L, *Daphnia magna* (OECD Guideline 202, part 1, static) Nominal concentration. The product has low solubility in the test medium. An eluate has been tested. No toxic effects occur within the range of solubility. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants: EC50 (72 h) > 100 mg/L (growth rate), *Desmodium subspicatus* (OECD Guideline 201, static) Nominal concentration. The product has low solubility in the test medium. An eluate has been tested. No toxic effects occur within the range of solubility. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):

In accordance with the required stability the product is not readily biodegradable. The product has not been tested. The statement has been derived from the structure of the product. The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants. Based on the data available concerning eliminability/degradation and bioaccumulation potential, longer-term harm to the environment is improbable. No data available concerning biodegradation and elimination.

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styroppek

Page: 10/11

Bioaccumulative potential: The product will not be readily bioavailable due to its consistency and insolubility in water.

Additional information: Add. remarks environmental fate & pathway: because of the product's consistency and low water solubility, bioavailability is improbable.

Other ecotoxicological advice: At the present state of knowledge, no negative ecological effects are expected. No toxic effects occur within the range of solubility.

Specified substance(s):

Pentane The substance has a very low Global Warming Potential and no Ozone Depleting Potential.

### 13. Disposal considerations

Container disposal: Dispose of in accordance with national, state and local regulations. Uncontaminated packaging can be recycled. Contact manufacturer regarding recycling.

Waste disposal of substance: Dispose of in accordance with national, state and local regulations. Do not discharge into waterways or sewer systems without proper authorization.

### 14. Transport information

#### TDG

Hazard class: 9  
Packing group: III  
ID number: UN 2211  
Hazard label: 9  
Proper shipping name: POLYMERIC BEADS, EXPANDABLE

#### IATA/ICAO

Hazard class: 9  
Packing group: III  
ID number: UN 2211  
Hazard label: 9  
Proper shipping name: POLYMERIC BEADS, EXPANDABLE

#### IMDG

Hazard class: 9  
Packing group: III  
ID number: UN 2211  
Hazard label: 9  
Marine pollutant: No  
Proper shipping name: POLYMERIC BEADS, EXPANDABLE

# Safety Data Sheet

## BIOPEK CHP SERIES

Revision date: 09/03/2024

Version: 1

Styropek

Page: 11/11

### 15. Regulatory information

For regulatory information please consult the product regulatory data sheet.

### 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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