

# DYLITE<sup>®</sup> BIOPEK<sup>®</sup> F271TNL BIO Cup and Container Polystyrene Resins with ENHANCED BIODEGRADATION



## PRODUCT DATA SHEET

November 2022



### Features:

- Primarily engineered for higher densities >48 g/l (>3.00 pcf)
- Highly consistent bead size
- High gloss characteristics
- Low energy consumption
- Fast molding cycles
- Food contact compliant

### Applications:

- Drinking cups (hot and cold)
- Take-out containers
- Ice cream containers
- Labeled and printed cups
- Thin-wall cups at high density
- Noodle bowls
- Soup containers

### Attributes:

- Good thermal insulation
- As compared to paper cups, DYLITE provides:
  - ▲ Superior temperature retention
  - ▲ Less exterior condensation
  - ▲ Strong and lightweight.
  - ▲ Superior taste and odor properties
  - ▲ Superior barrier resistance to spicy oils and foods
  - ▲ Improved leak resistance

Properties	Typical Values (English Units)	Typical Values (S.I. Units)
<b>Product properties:</b>		
Bead Size (T) - Fine	0.012 – 0.020 inches	0.30 – 0.50 milímetros
Pentane Content	5.3 – 5.9% by weight	5.3 – 5.9% by weight
Bulk Density	38 – 40 pounds per cubic foot	608 – 640 grams per liter
<b>Thermal Properties:</b>		
Thermal Resistivity (English Units) Thermal Conductivity (SI Units)	4.2 Ft <sup>2</sup> hr/BTU in	0.034 W/mk
Maximum Continuous Service Temperature	175°F	80°C

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## DESCRIPTION

The BIOPEK EPS resin product line is an expandable polystyrene (EPS) in spherical beads that processes like standard EPS and has been designed for accelerated biodegradability versus standard EPS\* while maintaining the excellent performance characteristics of EPS molded foam.

Like other EPS from Styropek®, BIOPEK resins **do not contain any ozone depleting substances or greenhouse gases.**

## AVAILABILITY

DYLITE expandable polystyrene (EPS) resins are produced at the Beaver Valley plant site (Monaca, PA) and are available in 2205-pound (1 metric ton) bulk bags. The product type and batch number are clearly marked on each bag. Contact the STYROPEK sales office in your region.

## QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEMS

DYLITE F271TNL BIO resins are manufactured at an ISO 9001 and ISO 14001 registered facility.

## STORAGE AND HANDLING

DYLITE F271TNL BIO should be stored in a cool, dry place away from direct sunlight. This product can release pentane during expansion and molding. Pentane is a highly flammable gas in the presence of open flames, lit cigarettes, sparks, static electricity discharges, or heat. Prolonged or improper storage can result in deterioration of product properties. Care should be taken when handling and transferring product to prevent foreign matter contamination. The STYROPEK Safety Data Sheet (SDS) and EPS Storage and Handling Safety Guide contain important safety information and should be reviewed before using the product. These and additional safety and health information are available on our [Product Care](#) webpage.

## PROCESSING

Minimum Achievable Density:

Batch pre-expander:

2.80 pounds per cubic foot or 45 grams per liter

Continuous pre-expander:

3.00 pounds per cubic foot or 48 grams per liter



## Pre-expansion lube levels:

Please call for technical assistance for proper pre-expansion lube levels

## Pre-puff age time: 2 – 8 hours

(When proper pre-lubrication, pre-expansion, pre-puff aging and molding conditions are followed.) Results vary from customer to customer based on processing and molding conditions.

Comprehensive assistance with processing conditions and Technical Services are available from STYROPEK Styrenics Technology Center.

Recommend the plating of brass or brass alloy molds with either chromium or nickel at 0.001” and 0.002” thickness. The electro-less plating process has shown better results.

## ENVIRONMENTAL INFORMATION

STYROPEK DYLITE resins are chemically inert. DYLITE does not contain any ozone depleting substances or greenhouse gases. BIOPEK F271TNL BIO is a recyclable material, but please note that many jurisdictions prohibit the use of unqualified recycling claims if there is not an established program that actually collects, separates or otherwise recovers a product or package from the waste stream where the product or package is sold.

Our claim is limited to the technical capability of our material to be recycled and does not apply to any final package or products.

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Subject to applicable local laws and regulations, expanded BIOPEK F271TNL BIO generally may be disposed of as non-hazardous waste.

### DISPOSAL AFTER USE

Expanded/molded BIOPEK material can be disposed of in a similar manner to standard EPS but has been designed to biodegrade much more quickly.

### CHEMICAL EFFECTS

The chemical resistance of BIOPEK products is similar to standard EPS. Extended exposure to ultraviolet light may cause the EPS foam to turn yellowish and the surface to become brittle.

### LIFE CYCLE STUDIES – FOODSERVICE PACKAGING

Life Cycle Studies detailing the environmental performance of everyday foodservice packaging products demonstrate that polystyrene foam products, in most cases have environmental burdens that are lower than or comparable to the alternate products studied.

### FOOD PACKAGING STATUS

United States: DYLLITE F271TNL BIO complies with the U.S.A. Food and Drug Administration (FDA) Code of Federal Regulations 21 CFR 177.1640 for polystyrene and 21CFR178.3010 for blowing agents. Thus, DYLLITE may be used in the United States as an article or a component of an article intended for use in contact with food, subject to any limitations described in the regulations.

### BIODEGRADABILITY

This BIOPEK F271TNL BIO sample was tested using ASTM D5511 and demonstrated enhanced biodegradation of 84.3% after 1027 days as compared to 1.1% biodegradation of standard EPS sample.\*

\*Test conducted under laboratory conditions not necessarily reflective of actual product configurations or landfill conditions. California, Maryland, and Washington prohibit the sale of plastic packaging and plastic products that imply in any way that the item will break down, biodegrade, or decompose in a landfill or other environment.



For more detailed information regarding enhanced biodegradability of BIOPEK, please refer to: [www.styropek.com](http://www.styropek.com)

### OBSERVATIONS

IMPORTANT: The information provided in this publication is based on best knowledge and experience of STYROPEK USA. In view of the many factors that may affect the processing and application of the products, this data does not relieve molders from the responsibility of carrying out their own tests and experiments; neither does it imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to comply with any existing laws and legislation as well as proprietary rights, of which STYROPEK, USA is holder.

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