Technical Data Sheet

Toppyl PB 8640M

Polybutene-1

Product Description

Polybutene-1 (PB-1) grade *Toppyl* PB 8640M is a random copolymer of butene-1 with low ethylene content.

In blends with PE polymers it forms a separate but well-dispersed phase. Its primary use is as a minority blend component in the seal layer of easy-opening packaging films, produced by blown film extrusion.
A typical PE blend partner for *Toppyl* PB 8640M could be any ethylene homo-or copolymer in the melt index range of 0.7 to 2.0 g/10min.

Toppyl PB 8640M is also highly compatible with polypropylene due to its similar molecular structure, and it can be used to modify PP sealing behavior or mechanical properties such as impact strength.
PB-1 crystallizes slowly and is very shear sensitive in its flow behavior.

Regulatory Status

For regulatory compliance information, see *Toppyl* PB 8640M Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

This grade is not intended for medical and pharmaceutical applications.

Status	Commercial: Active
Availability	Africa-Middle East; Asia-Pacific; Australia and New Zealand; Europe; North America; South & Central America
Application	Bags & Pouches; Food Packaging Film; Lamination Film; Peelable Film; Secondary Packaging; Specialty Film
Market	Flexible Packaging; Rigid Packaging
Processing Method	Blown Film; Cast Film
Attribute	Good Heat Seal; Good Optical Properties; Good Organoleptic Properties; Good Processability

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate			
(190 °C/2.16 kg)	1	g/10 min	ISO 1133-1
(190 °C/10.0 kg)	28	g/10 min	ISO 1133-1
Density	0.906	g/cm³	ISO 1183-1
Mechanical			
Flexural Modulus	250	MPa	ISO 178
Tensile Strength at Break	30	MPa	ISO 8986-2
Tensile Elongation at Break	300	%	ISO 8986-2
Thermal			
Melting Temperature			
Tm1	113	°C	ISO 11357-3
Tm2	97	°C	ISO 11357-3

Tm2 corresponds with the melting point of crystalline form 2 which is measured immediately after solidification.
Tm2 corresponds with the melting point available for each batch on the Certificate of Analysis (COA).

Notes

Mechanical properties are measured on specimens conditioned for 10 days at 23°C

These are typical property values not to be construed as specification limits.

Processing Techniques

Recommended processing temperatures: 180 °C to 260 °C.

In cases where higher temperatures are required, please contact your appropriate technical contact for support.

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Further Information

Health and Safety:

The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. For specific information on regulatory compliance contact your local representative.

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal precaution to prevent mechanical or thermal injury to the eyes.

Molten polymer may be degraded if it is exposed to air during any of the processing and off-line operations. The products of degradation may have an unpleasant odor. In higher concentrations they may cause irritation of the mucus membranes. Fabrication areas should be ventilated to carry away fumes or vapours. Legislation on the control of emissions and pollution prevention should be observed.

The resin will burn when supplied with excess heat and oxygen. It should be handled and stored away from contact with direct flames and/or ignition sources. While burning, the resin contributes high heat and may generate a dense black smoke.

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

For further information about safety in handling and processing please refer to the Safety Data Sheet.

Conveying:

Conveying equipment should be designed to prevent production and accumulation of fines and dust particles that are contained in polymer resins. These particles can under certain conditions pose an explosion hazard. Conveying systems should be grounded, equipped with adequate filters and regularly inspected for leaks.

Storage:

The resin is packed in 25 kg bags, octabins or bulk containers protecting it from contamination. If it is stored under certain conditions, i. e. if there are large fluctuations in ambient temperature and the atmospheric humidity is high, moisture may condense inside the packaging. Under these circumstances, it is recommended to dry the resin before use. Unfavorable storage conditions may also intensify the resin's slight characteristic odor.

Resin should be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. Higher storage temperatures may reduce the storage time.

The information submitted is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of suitability for a specific purpose. This information does not remove the obligation of the customer to inspect the material on arrival and notify us of any faults immediately. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed.

Company Information

For further information regarding the LyondellBasell company, please visit http://www.lyb.com/.

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