



## Polybutene-1 PB 8640M

### Polybutene-1

#### Product Description

Polybutene-1 grade **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 **PB 8640M** could be any ethylene homo- or copolymer in the melt index range of 0.7 to 2.0 g/10min.

Polybutene-1 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.

Food law compliance information about this product can be found in separate product documentation.

This product is not intended for use in medical and pharmaceutical applications.

#### Product Characteristics

<b>Status</b>	Commercial: Active
<b>Test Method used</b>	ISO
<b>Availability</b>	Europe, North America, Asia-Pacific, Australia/NZ, Africa-Middle East, Latin America
<b>Typical Customer Applications</b>	Blown Film, Peelable Film, Speciality Film

Typical Properties	Method	Value	Unit
Physical			
Density	ISO 1183	0.906	g/cm³
Melt flow rate (MFR)	ISO 1133		
(190°C/2.16kg)		1	g/10 min
(190°C/10kg)		28	g/10 min
Mechanical			
Flexural modulus	ISO 178	250	MPa
Tensile Strength at Break	ISO 8986-2	30	MPa
Tensile Elongation at Break	ISO 8986-2	300	%
Note: Measured on specimens conditioned for 10 days at 20°C			
Thermal			
Melting temperature	DSC		
		113	°C
Note: Tm1			
		97	°C
Note: Tm2			

#### Additional Properties

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).

Recommended processing temperatures: 180°C to 200°C. In cases where higher temperatures are required please contact your appropriate technical contact for support.

## Notes

Typical properties; not to be construed as specifications.

## Further Information

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### ***Polybutene-1 PB 8640M***

**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. We recommend the conveying system used is equipped with adequate filters, is operated and maintained that no leak develops and adequate grounding exists at all times.

#### **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 have an unpleasant odour. 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 must be observed. If the principles of sound manufacturing practice are adhered to and the place of work is well ventilated, no health hazards are involved in processing the resin.

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. In burning the resin contributes high heat and may generate a dense black smoke. Starting fires can be extinguished by water, developed fires should be extinguished by heavy foams forming an aqueous or polymeric film. For further information about safety in handling and processing please refer to the Material Safety Data Sheet.

#### **Storage:**

The resin is packed in 25 kg bags or in bulk containers protecting it from contamination. If it is stored under adverse 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. Unfavourable storage conditions may also intensify the resin's slight characteristic odour.

The resin is subjected to degradation by ultra-violet radiations or by high storage temperatures. Therefore the resin must be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. The resin can be stored over a period of more than 6 months without significant changes in the specified properties, appropriate storage conditions provided. Higher storage temperatures 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. The data do not relieve the customer from his obligation to control the resin upon arrival and to complain about faults. 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.