Technical Data Sheet

Lupolen 1800U

Low Density Polyethylene

Product Description

Lupolen 1800U is a low density polyethylene resin used in various processing methods such as injection molding and compounding. It exhibits very high flowability and a very good balance of softness and toughness, dimensional stability and good processing. *Lupolen* 1800U is delivered in pellet form and is not additivated. It is used in a wide range of injection molding applications such as thin-wall packaging (TWIM) and housewares. *Lupolen* 1800U is also used in the area of compounding for color and additive batches and as a viscosity modifier. Customers have reported that the high melt flow rate (MFR) of *Lupolen* 1800U enables very good dispersion and homogenization at high loads with pigments and additives.

Lupolen 1800U is not intended for use in medical and pharmaceutical applications.

Regulatory Status

For regulatory compliance information, see *Lupolen* 1800U Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

Status	Commercial: Active
Availability	Africa-Middle East; Asia-Pacific; Australia and New Zealand; Europe; South & Central America
Application	Caps & Closures; Colour Concentrates; Housewares; Sports, Leisure & Toys
Market	Consumer Products; Rigid Packaging
Processing Method	Compounding; Injection Molding
Attribute	Fast Cycle (Production); Good Flexibility; Good Processability; Low Density; Low Temperature Impact Resistance

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate, (190 °C/2.16 kg)	65	g/10 min	ISO 1133-1
Density	0.918	g/cm³	ISO 1183-1
Mechanical			
Tensile Modulus	180	MPa	ISO 527-1, -2
Tensile Stress at Yield	8	MPa	ISO 527-1, -2
Tensile Elongation at Break	85	%	ISO 8986-2
Environmental Stress Crack Resistance, F_{50}	1	hr	ASTM D1693
Note: Cond. B, 10% Arkopal N100			
Hardness			
Shore Hardness, (Shore D)	45		ISO 868
Ball Indentation Hardness	12	MPa	ISO 2039-1
Thermal			
Vicat Softening Temperature, (A/50)	75	°C	ISO 306
Peak Melting Point	105	°C	ISO 11357-3
Processing Parameters			
Melt Temperature	180 - 230	°C	

Manufacturer website: https://www.lyondellbasell.com/en/

Notes

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

Processing Techniques

Users should determine the conditions necessary to obtain optimum product properties and suitability of the product for the intended application.

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

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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Manufacturer website: https://www.lyondellbasell.com/en/

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