# Technical Data Sheet

## *Lupolen* 2420D

Low Density Polyethylene

### Product Description

*Lupolen* 2420 D is a non-additivated, low density polyethylene. It is characterized by a high melt strength leading to a good bubble stability during blown film extrusion. It is delivered in pellet form.

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

### Regulatory Status

For regulatory compliance information, see *Lupolen* 2420D Product Stewardship Bulletin (PSB) and Safety Data Sheet (SDS).

| | |
|---|---|
| **Status** | Commercial: Active |
| **Availability** | Africa-Middle East; Asia-Pacific; Europe |
| **Application** | Agriculture Film; Bags & Pouches; Heavy Duty Packaging; Liner Film; Shrink Film; Stretch Hood |
| **Market** | Flexible Packaging |
| **Processing Method** | Blown Film |
| **Attribute** | General Purpose; Good Processability; Good Tear Strength; Good Toughness |

| Typical Properties | Nominal Value | Units | Test Method |
|---|---|---|---|
| **Physical** | | | |
| Melt Flow Rate, (190 °C/2.16 kg) | 0.25 | g/10 min | ISO 1133-1 |
| Density | 0.923 | g/cm³ | ISO 1183-1 |
| **Mechanical** | | | |
| Tensile Modulus | 260 | MPa | ISO 527-1, -2 |
| Tensile Stress at Yield | 10 | MPa | ISO 527-1, -2 |
| **Film** | | | |
| Dart Drop Impact Strength, F50 | 250 | g | ASTM D1709 |
| Tensile Strength | | | |
| MD | 27 | MPa | ISO 527-1, -3 |
| TD | 25 | MPa | ISO 527-1, -3 |
| Tensile Strain at Break | | | |
| MD | 200 | % | ISO 527-1, -3 |
| TD | 500 | % | ISO 527-1, -3 |
| Coefficient of Friction | >0.8 | | ISO 8295 |
| **Impact** | | | |
| Failure Energy<br>Film thickness: 70 µm | 6.5 | J/mm | DIN 53373 |
| **Thermal** | | | |
| Vicat Softening Temperature, (A/50 N) | 96 | °C | ISO 306 |
| Peak Melting Point | 110 | °C | ISO 3146 |

| | | | |
|---|---|---|---|
| **Optical** | | | |
| Haze, (50 µm) | <14 | % | ASTM D1003 |
| Gloss | | | |
| (20°) | >15 | | ASTM D2457 |
| (60°) | >50 | | ASTM D2457 |
| **Additional Information** | | | |
| Test Specimen | Film | | |
| Film properties tested using 50 µm thickness blown film extruded at a melt temperature of 180°C and a blow-up ratio of 2.5:1. | | | |
| **Processing Parameters** | | | |
| Extrusion Temperature | 170-220 | °C | |

## 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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SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

Users should review the applicable Safety Data Sheet before handling the product.

This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:
(i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
(ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
(iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
(iv) tobacco related products and applications, electronic cigarettes and similar devices.
(v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

The product(s) may not be used in:
(i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
(ii) applications involving permanent implantation into the body;
(iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

In addition to the above, LyondellBasell may further prohibit or restrict the use of its products in certain applications. For further information, please contact a LyondellBasell representative.

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