# Purell PE 3020 D

## Low Density Polyethylene

### LyondellBasell Industries

#### Message:

Purell PE 3020 D is a low density polyethylene with high rigidity, good opticals and good chemical resistance. It is delivered in pellet form. The grade is used by our customers for small blow mouldings including packaging of pharmaceuticals in blow fill seal technology and injection moulding for medical devices, closures and seals.

Without exception, all potential activities for applications in the pharmaceutical, medical device, laboratory and diagnostics area have to be discussed with the relevant Technical (P & AD) and Business contacts first.

To discuss a medical/pharmaceutical application please contact: your local Distributor or your local Basell contact.

| General Information                      |                                 |                   |                      |
|--|---------------------------------|-------------------|----------------------|
| Features                                 | Ethylene Oxide Sterilizable     |                   |                      |
|  | Good Chemical Resistance        |                   |                      |
|  | High Rigidity                   |                   |                      |
|  | Opticals                        |                   |                      |
|  |                                 |                   |                      |
| Uses                                     | Blow Molding Applications       |                   |                      |
|  | Bottles                         |                   |                      |
|  | Caps                            |                   |                      |
|  | Closures                        |                   |                      |
|  | Film                            |                   |                      |
|  | Medical/Healthcare Applications |                   |                      |
|  | Pharmaceuticals                 |                   |                      |
|  | Seals                           |                   |                      |
|  | Vials                           |                   |                      |
|  |                                 |                   |                      |
| Forms                                    | Pellets                         |                   |                      |
| Processing Method                        | Blown Film                      |                   |                      |
|  | Extrusion Blow Molding          |                   |                      |
|  | Injection Molding               |                   |                      |
|  |                                 |                   |                      |
| Physical                                 | Nominal Value                   | Unit              | Test Method          |
| Density                                  | 0.927                           | g/cm <sup>3</sup> | ISO 1183, ASTM D1505 |
| Apparent Density                         | > 0.50                          | g/cm³             | ISO 60               |
| Melt Mass-Flow Rate (MFR) (190°C/2.16    |                                 |                   |                      |
| kg)                                      | 0.30                            | g/10 min          | ASTM D1238, ISO 1133 |
| Environmental Stress-Cracking Resistance | 16.0                            | hr                | ASTM D1693           |
| Hardness                                 | Nominal Value                   | Unit              | Test Method          |
| Shore Hardness (Shore D)                 | 51                              |                   | ISO 868              |
| Mechanical                               | Nominal Value                   | Unit              | Test Method          |
| Tensile Modulus                          |                                 |                   |                      |

| 1% Secant                                | 434           | MPa  | ASTM D638               |
|--|---------------|------|-------------------------|
| 23°C                                     | 300           | MPa  | ISO 527-2               |
| Tensile Strength                         |               |      |                         |
| Yield                                    | 15.2          | MPa  | ASTM D638               |
| Yield, 23°C                              | 13.0          | MPa  | ISO 527-2               |
| Break                                    | 15.2          | MPa  | ASTM D638               |
| Tensile Elongation (Break)               | 700           | %    | ASTM D638               |
| Flexural Modulus - 1% Secant             | 414           | MPa  | ASTM D790               |
| Films                                    | Nominal Value | Unit | Test Method             |
| Film Thickness - Recommended / Available | 60 to 150 μm  |      |                         |
| Thermal                                  | Nominal Value | Unit | Test Method             |
| Deflection Temperature Under Load (0.45  |               |      |                         |
| MPa, Unannealed)                         | 46.0          | °C   | ASTM D648               |
| Vicat Softening Temperature              | 102           | °C   | ASTM D1525, ISO 306/A50 |
| Melting Temperature (DSC)                | 114           | °C   | ISO 3146                |
| Extrusion                                | Nominal Value | Unit |                         |
| Melt Temperature                         | 170 to 220    | °C   |                         |
|  |               |      |                         |

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