This high density polyethylene is an ethylene-hexene copolymer that is tailored for injection molded applications that:

- Require moderate flow
- Require excellent impact strength
- Require good stiffness
- Are durable and recyclable for sustainability

Typical injection molded applications for 9006 include:

- Industrial pails (five-gallon)
- Pail lids
- Automotive applications
- Foamed parts

This resin meets these specifications:

- ASTM D4976 - PE 233
- FDA 21 CFR 177.1520(c) 3.2a, use conditions B through H per 21 CFR 176.170(c)

### General Information

**Material Status**
- Commercial: Active

**Regional Availability**
- Europe
- Latin America
- North America

**Features**
- Copolymer
- Durable
- Food Contact Acceptable
- Good Stiffness
- Hexene Comonomer
- High Density
- High Impact Resistance
- Medium Flow
- Recyclable Material

**Uses**
- Automotive Applications
- Foam
- Lids
- Pails

**Agency Ratings**
- ASTM D4976-PE233
- FDA 21 CFR 176.170(c)
- FDA 21 CFR 177.1520(c) 3.2a

**Forms**
- Pellets

**Processing Method**
- Injection Molding

### ASTM & ISO Properties

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Typical Value (English)</th>
<th>Typical Value (SI)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>0.953 g/cm³</td>
<td>0.953 g/cm³</td>
<td>ASTM D1505</td>
</tr>
<tr>
<td>Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)</td>
<td>6.6 g/10 min</td>
<td>6.6 g/10 min</td>
<td>ASTM D1238</td>
</tr>
<tr>
<td>Environmental Stress-Cracking Resistance (ESCR)</td>
<td>20.0 hr</td>
<td>20.0 hr</td>
<td>ASTM D1693B</td>
</tr>
<tr>
<td>100% Igepal, F50</td>
<td>20.0 hr</td>
<td>20.0 hr</td>
<td></td>
</tr>
</tbody>
</table>

### Mechanical Properties

<table>
<thead>
<tr>
<th>Mechanical Property</th>
<th>Typical Value (English)</th>
<th>Typical Value (SI)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength 3 (Yield)</td>
<td>4060 psi</td>
<td>28.0 MPa</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Tensile Elongation 3 (Break)</td>
<td>950 %</td>
<td>950 %</td>
<td>ASTM D638</td>
</tr>
<tr>
<td>Flexural Modulus - Tangent 4</td>
<td>184000 psi</td>
<td>1270 MPa</td>
<td>ASTM D790</td>
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</table>

### Hardness

<table>
<thead>
<tr>
<th>Hardness Property</th>
<th>Typical Value (English)</th>
<th>Typical Value (SI)</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Durometer Hardness (Shore D)</td>
<td>62</td>
<td>62</td>
<td>ASTM D2240</td>
</tr>
</tbody>
</table>
## Marlex® 9006
Chevron Phillips Chemical Company LLC - High Density Polyethylene

<table>
<thead>
<tr>
<th>Thermal</th>
<th>Typical Value (English)</th>
<th>Typical Value (SI)</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britleness Temperature</td>
<td>&lt; -103 °F</td>
<td>&lt; -75.0 °C</td>
<td>ASTM D746A</td>
</tr>
<tr>
<td>Vicat Softening Temperature</td>
<td>257 °F</td>
<td>125 °C</td>
<td>ASTM D1525</td>
</tr>
</tbody>
</table>

### Notes

1. use conditions B through H
2. Typical properties: these are not to be construed as specifications.
3. Type IV, 2.0 in/min (51 mm/min)
4. 0.50 in/min (13 mm/min)
5. Rate A (50°C/h), Loading 1 (10 N)