

# 产品比较

| Technical Data       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Description  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Braskem PP<br>6D83K  | <p>Consistent processability, low odor and taste transfer, high gloss, good regrind stability, contains clarifying additive</p> <p>Applications</p> <p>Suggested uses include extrusion blow molding processes where enhanced clarity is desired</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TITANPRO®<br>SM198   | <p>Polypropylene random copolymer. Titanpro SM198 is a clarified grade designed for high transparency articles. The base resin meets the requirements of the U.S. Food and Drug Administration as specified in 21 CFR 177.1520(a)(3)(i) and c)3.1a. The adjuvant meet their respective FDA regulations and 21 CFR 177.1520(b). In summary, this resin meets the FDA criteria covering safe use of polyolefin articles and component of articles intended for food contact use. TSCA Registry: CAS# 9010-79-1.</p> <p>APPLICATIONS</p> <p>Injection and extrusion blow molding containers. Extruded sheet for thermoformed containers and lids, etc. Multilayer coextruded structures and sheet. Injection molded articles requiring high toughness.</p> <p>ADVANTAGES</p> <p>Superior clarity. Low odour &amp; taste. Hot fillable. Good rigidity and impact resistance. Cycle time reduction with low processing melt temperature. Utilities cost saving and process versatility.</p> <p>FABRICATION</p> <p>Equipment - general injection, extrusion blow molding, sheet extrusion and thermoforming machines.</p> <p>Techniques - standard processing.</p> |
| YUNGSOX® PP<br>5018T | <p>YUNGSOX® PP 5018T 是一种聚丙烯无规共聚物 ( PP 无规共聚物 ) 材料,。该产品在亚太地区有供货,。</p> <p>YUNGSOX® PP 5018T 的主要特性有:</p> <ul style="list-style-type: none"><li>• 共聚物</li><li>• 美观</li><li>• 透明度</li></ul> <p>典型应用领域包括:</p> <ul style="list-style-type: none"><li>• 瓶子</li><li>• 食品接触应用</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Purell<br>RP271G     | <p>Low Melt Flow Polypropylene Random Copolymer Resin with High Clarity Dedicated for Medical Application in Particular IV Bottles Made by Extrusion Blow Molding Process (EBM)</p> <p>Without exception, all potential activities for applications in the pharmaceutical, medical device, laboratory and diagnostics area have to be discussed with the relevant LyondellBasell Technical and Business contacts first.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Globalene®<br>ST611M | <p>Globalene® ST611M 是一种聚丙烯无规共聚物 ( PP 无规共聚物 ) 材料,。该产品在北美洲、欧洲或亚太地区有供货,加工方式为:injection stretch blow molding、吹塑成型或片材挤出成型。</p> <p>Globalene® ST611M 的主要特性有:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



产品比较

- 共聚物
- 耐冲击
- 透明度

典型应用领域包括:

- 薄板
- 瓶子

| General                 | Braskem PP 6D83K                                         | TITANPRO® SM198                                                                          | YUNGSOX® PP 5018T            | Purell RP271G                                              | Globalene® ST611M                                    |
|-------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------|------------------------------------------------------|
| Manufacturer / Supplier | • Braskem America Inc.                                   | • Lotte Chemical Titan (M) Sdn. Bhd.                                                     | • Formosa Polypropylene      | • LyondellBasell Industries                                | • Lee Chang Yung Chemical Industry Corp.             |
| Generic Symbol          | • PP 无规共聚物                                               | • PP 无规共聚物                                                                               | • PP 无规共聚物                   | • PP 无规共聚物                                                 | • PP 无规共聚物                                           |
| Additive                | • 澄清剂                                                    | --                                                                                       | --                           | --                                                         | --                                                   |
| Features                | • 高光<br>• 较低的气味转移性<br>• 较低的味道转移性<br>• 良好的加工性能<br>• 清晰度，高 | • 低温韧性<br>• 良好的加工性能<br>• 良好的颜色稳定性<br>• 流动性高<br>• 韧性良好<br>• 食品接触的合规性<br>• 无规共聚物<br>• 优良外观 | • 清晰度，高<br>• 无规共聚物<br>• 优良外观 | • 良好的加工性能<br>• 良好抗撞击性<br>• 耐化学品性能，良好<br>• 清晰度，高<br>• 无规共聚物 | • Good Printability<br>• 耐低温冲击<br>• 清晰度，高<br>• 无规共聚物 |
| Uses                    | • 吹塑成型应用                                                 | • 薄壁部件<br>• 电器用具<br>• 家用货品<br>• 汽车领域的应用<br>• 支架托盘                                        | • 吹塑成型应用<br>• 果汁瓶<br>• 型材    | • 薄膜<br>• 瓶子<br>• 消费品应用领域<br>• 药物<br>• 医疗/护理用品             | • 片材<br>• 瓶子                                         |



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| General           | Braskem PP<br>6D83K   | TITANPRO®<br>SM198                                                                                                                     | YUNGSOX® PP<br>5018T  | Purell<br>RP271G           | Globalene®<br>ST611M                                   |
|-------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|--------------------------------------------------------|
| Agency Ratings    | • FDA 21 CFR 177.1520 | • FDA 21 CFR 177.1520(a) 3 (i)<br>• FDA 21 CFR 177.1520(b)<br>• FDA 21 CFR 177.1520(c) 3.1a<br>• TSCA Listed on Inventory <sup>2</sup> | • FDA 21 CFR 177.1520 | --                         | --                                                     |
| Forms             | --                    | --                                                                                                                                     | • 粒子                  | • 粒子                       | • 粒子                                                   |
| Processing Method | • 挤出吹塑成型              | • 注射成型                                                                                                                                 | --                    | • 挤出<br>• 挤出吹塑成型<br>• 注射成型 | • Injection Stretch Blow Molding<br>• 吹塑成型<br>• 片材挤出成型 |

| Physical                   | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制      | 测试方法            |
|----------------------------|---------------------|--------------------|-------------------------|------------------|----------------------|----------|-----------------|
| Density / Specific Gravity |                     |                    |                         |                  |                      |          |                 |
| --                         | --                  | --                 | --                      | 0.900            | 0.900                | g/cm³    | ASTM D792       |
| --                         | --                  | --                 | 0.900                   | --               | --                   | g/cm³    | ISO 1183        |
| --                         | --                  | 0.900              | --                      | --               | --                   | g/cm³    | ASTM D1505      |
| Melt Mass-Flow Rate (MFR)  |                     |                    |                         |                  |                      |          |                 |
| 230°C/2.16 kg              | 1.9                 | 1.6                | --                      | 1.7              | 1.8                  | g/10 min | ASTM D1238      |
| 230°C/2.16 kg              | --                  | --                 | 1.7                     | --               | --                   | g/10 min | ISO 1133        |
| Molding Shrinkage          |                     |                    |                         |                  |                      |          |                 |
| 流动                         | --                  | --                 | --                      | --               | 1.7                  | %        | ASTM D955       |
| --                         | --                  | --                 | 1.3 到 1.7               | --               | --                   | %        | Internal Method |
| Water Absorption (24 hr)   | --                  | 0.020              | --                      | --               | --                   | %        | ASTM D570       |

| Mechanical       | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制 | 测试方法      |
|------------------|---------------------|--------------------|-------------------------|------------------|----------------------|-----|-----------|
| Tensile Strength |                     |                    |                         |                  |                      |     |           |
| 屈服 <sup>4</sup>  | 28.3                | --                 | --                      | --               | --                   | MPa | ASTM D638 |
| 屈服               | --                  | 28.4               | --                      | 26.0             | 29.4                 | MPa | ASTM D638 |
| 屈服               | --                  | --                 | 29.4                    | --               | --                   | MPa | ISO 527-2 |



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|-----------------------------------|---------------------|--------------------|-------------------------|------------------|----------------------|-----|------------|
| Tensile Elongation                |                     |                    |                         |                  |                      |     |            |
| 屈服                                | --                  | 14                 | --                      | 14               | 13                   | %   | ASTM D638  |
| 屈服 <sup>4</sup>                   | 10                  | --                 | --                      | --               | --                   | %   | ASTM D638  |
| 断裂                                | --                  | --                 | --                      | --               | 620                  | %   | ASTM D638  |
| 断裂                                | --                  | --                 | 400                     | --               | --                   | %   | ISO 527-2  |
| Flexural Modulus                  |                     |                    |                         |                  |                      |     |            |
| --                                | --                  | --                 | --                      | --               | 1050                 | MPa | ASTM D790  |
| --                                | --                  | --                 | --                      | 900              | --                   | MPa | ASTM D790A |
| --                                | --                  | 1080               | --                      | --               | --                   | MPa | ASTM D790B |
| 1% 正割 <sup>5</sup>                | 1070                | --                 | --                      | --               | --                   | MPa | ASTM D790A |
| --                                | --                  | --                 | 883                     | --               | --                   | MPa | ISO 178    |
| Impact                            | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制 | 测试方法       |
| Notched Izod Impact               |                     |                    |                         |                  |                      |     |            |
| 23°C                              | --                  | --                 | --                      | --               | 59                   | J/m | ASTM D256  |
| 23°C                              | --                  | --                 | 150                     | --               | --                   | J/m | ISO 180    |
| 23°C                              | 290                 | 330                | --                      | 80               | --                   | J/m | ASTM D256A |
| Hardness                          | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制 | 测试方法       |
| Rockwell Hardness                 |                     |                    |                         |                  |                      |     |            |
| R 级                               | --                  | 77                 | --                      | --               | 81                   |     | ASTM D785  |
| R 计秤                              | --                  | --                 | 98                      | --               | --                   |     | ISO 2039-2 |
| Thermal                           | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制 | 测试方法       |
| Deflection Temperature Under Load |                     |                    |                         |                  |                      |     |            |
| 0.45 MPa, 未退火                     | --                  | 77.0               | --                      | 88.0             | --                   | °C  | ASTM D648  |
| 1.8 MPa, 未退火                      | --                  | --                 | 95.0                    | --               | --                   | °C  | ISO 75-2/A |
| Vicat Softening Temperature       | --                  | --                 | 130                     | --               | --                   | °C  | ISO 306    |
| Melting Temperature               | --                  | --                 | 146                     | --               | --                   | °C  | DSC        |
| Additional Information            | Braskem PP<br>6D83K | TITANPRO®<br>SM198 | YUNGSOX®<br>PP<br>5018T | Purell<br>RP271G | Globalene®<br>ST611M | 单位制 | 测试方法       |
| Heat Deflection Temperature       | --                  | --                 | --                      | --               | 80                   | °C  | ASTM D648  |
| 收缩性                               | --                  | 1.3 到 1.4          | --                      | --               | --                   | %   |            |

