Kraton G1645 polymer is a hydrogenated styrenic block copolymer (HSBC) designed for single or multilayer medical IV film applications. Based on enhanced rubber segment (ERS) midblock technology, the product delivers improved performance to meet stringent medical requirements for patient health, safety and comfort.

Kraton G1645 polymer enables medical device manufacturers to achieve improved durability through longer shelf life; excellent heat seal strength and impact resistance; improved clarity and steam sterilization. These features can provide enhanced protection and more efficient handling of IV bags and containers. Kraton G1645 polymer can be compounded with polypropylene (PP) at various ratios for different layers. It can also compatibilize different polymers or serve as tie layers for multilayer films.

Kraton G1645 polymer does not contain intentionally-added phthalate- and BPA-based chemicals. This helps avoid contamination issues caused by plasticizers. When combined with random copolymer PP, Kraton G1645 is an industry-proven alternative to PVC. The HSBC/PP blend is designed to have excellent UV, ozone and chemical resistance; poses no known risk to health or environment during process; and can be recycled.

**Excellent Transparency**

Patient safety is a priority throughout the entire supply chain, with a strong focus on preventing product contamination. While Kraton polymer solutions have medical approvals (USP Class VI, ISO 10993) – with the lowest leachables and extractables in the industry – contamination can come from various sources. Therefore, Kraton ERS midblock technology offers medical IV films and bags with a high degree of transparency to help detect impurities prior to infusion.

**Film Structure**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Material Description</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outer Layer</td>
<td>Homo PP</td>
<td>20µm</td>
</tr>
<tr>
<td>Middle Layer</td>
<td>Random copolymer PP with Kraton G1645</td>
<td>140µm</td>
</tr>
<tr>
<td>Inner Layer (sealing layer)</td>
<td>Random copolymer PP with Kraton G1645</td>
<td>40µm</td>
</tr>
</tbody>
</table>

Typical 3-layer polyolefin film structure for single-cavity IV bag.

**Sealing**

- Increased Strength in Machine & Transversal Direction
- Lower Seal Initiation Temperature
- Less Than 1 Second Sealing Time
High Impact Resistance

To ensure medical IV bags meet durability requirements, drop tests are conducted for each individual product. To simulate a real-life mishap, a one-liter water-filled bag is lifted to various heights and dropped onto the ground.

Bags made with Kraton G1645 typically do not experience break or leakage during these tests.