What is PPE?

Polymerization

\[
\begin{align*}
2,6\text{-Dimethylphenol} & \quad + \quad n/2 \text{O}_2 \\
\text{Catalyst} & \quad \rightarrow \\
\text{1-4 Coupling} & \quad \rightarrow \\
\text{Polyphenylene ether (PPE)} & \quad + \quad n \text{H}_2\text{O}
\end{align*}
\]

Characteristics

* Noncrystalline polymer
* High heat resistance (Tg: 214 °C by DSC)
* Low specific gravity (1.06)
* Good electrical properties (Dielectric constant: 2.45 at 1 MHz, Dielectric loss: 0.0007 at 1 MHz)
* Flame retardant
* Dissolves well in aromatic hydrocarbons (Toluene, Xylene, etc.) and halogenated hydrocarbons (Chloroform, etc.)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reduced viscosity</th>
<th>Molecular weight (Mn)</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard (S201A)</td>
<td>0.52</td>
<td>Ca 19,000</td>
<td>White powder</td>
</tr>
<tr>
<td>Low viscosity (S202A)</td>
<td>0.41</td>
<td>Ca 16,000</td>
<td>White powder</td>
</tr>
<tr>
<td>Test method</td>
<td>0.5g/dl-PPE in CHCl₃, 30 oC</td>
<td>GPC calibrated with polystyrene</td>
<td></td>
</tr>
</tbody>
</table>

Data shown are typical values obtained by proper testing methods and should not be used for specification purpose. Please use these data for selecting the most appropriate grade suitable for specific usage. These data may be changed because of improvement in properties.

Do not use XYRON™ in any of the following orally- or medically-related applications.
- Orally-related applications: any part, device or component which may come into direct oral contact or into direct contact with drinking foods or beverages. For drinking water application, please consult Asahi Kasei Chemicals Corporation.
- Medically-related applications: any part, or component which may be used intracorporeally or which may in dialysis or other processes come into direct or indirect contact with body tissue, body fluids, or transfusion fluids.