Photocatalytic TiO2 is normally activated by irradiating ultra-violet ray. However, requirement for the photoactivity by irradiating visible light from fluorescent light has been increased in order to utilize photocatalytic TiO2 for interior use. Photopaque MPT-623 is a photocatalytic TiO2 treated with platinum compound, developed by ISK’s unique technology, which exhibits high photoactivity under visible light. MPT-623 can be supplied as forms of powder and its water dispersion.

**Photopaque ®
Visible Light Activation Type
(newly developed products)
MPT-623**

<table>
<thead>
<tr>
<th></th>
<th>Visible light activation type</th>
<th>Normal type</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPT-623</td>
<td>ST-01</td>
<td></td>
</tr>
<tr>
<td>X ray diameter (nm)</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>SSA (m²/g)</td>
<td>60</td>
<td>300</td>
</tr>
<tr>
<td>Surface treatment</td>
<td>Pt compound</td>
<td>non</td>
</tr>
</tbody>
</table>

**Fluorescent light : 5700lx**

- Reaction rate constant (1/h)
  - MPT-623: 6
  - ST-01: 2

**Black light : 0.5mW/cm²**

- Reaction rate constant (1/h)
  - MPT-623: 10
  - ST-01: 4

- Closed circulation reactor
- Acetaldehyde Initial concentration: 150ppm
- Sample tested: 0.1g
- Exposed area: 28.3cm²
- Reactor volume: 2.8L
- Circulation rate: 3L/min

**☆Photo-absorption**

- Reflection (%)
  - MPT-623
  - ST-01

**Water dispersion Photopaque MPT-427**

**☆Basic Properties**

<table>
<thead>
<tr>
<th></th>
<th>MPT-427 (dispersion of MPT-623)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid concentration (%)</td>
<td>18～22</td>
</tr>
<tr>
<td>pH</td>
<td>7.0～9.0</td>
</tr>
<tr>
<td>Mean particle size (μm)</td>
<td>0.05～0.10</td>
</tr>
</tbody>
</table>

**ISHIHARA SANGYO KAISHA, LTD.**

2013.02