Silicone / Alkyl Surface Treated Pigments

Shin-Etsu Silicone introduces a new series of silicone/alkyl surface treated pigments that feature high hydrophobicity and dispersing performance in a wide range of oils. They improve the quality of color cosmetics from liquid foundation to lip color and more.

**KTP-09R, KTP-09Y, KTP-09B KTP-09W**

### Molecular Model of Surface Treatment Agent

Branched silicone with graft alkyl chain and triethoxysilyl group as reactive site.

![Molecular Model](image)

### Features

- **High hydrophobicity**
- **Excellent wetting in a wide range of oils**
- **Silky feel and good skin adherence**

### Hydrophobicity

**Observation of state in silicone fluid / water**

KF-995 (Cyclopentasiloxane); Water: Pigment=10g:10g:0.05g

Pigments dispersed in KF-995, water added. Mixture shaken and left to stand, then observed.

**Wettability test in methanol aqueous solution**

The surface treated pigment was floated on a methanol aqueous solution and a constant amount of methanol dripped continuously. The precipitation of the pigment was measured and the degree of hydrophobing evaluated. Compared to the improperly treated sample, the KTP-09R did not precipitate until an extremely high concentration of methanol was reached.

KTP-09 series pigments are dispersed only in silicone fluid. With the improperly treated sample, on the other hand, the hydrophilic portion remaining on the pigment surface adsorbs to water and the state becomes as if water has gotten into the silicone fluid.

### Product Lineup

<table>
<thead>
<tr>
<th>Product name</th>
<th>Content</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>KTP-09R</td>
<td>Silicone/alkyl treated red iron oxide</td>
<td>Red</td>
</tr>
<tr>
<td>KTP-09Y</td>
<td>Silicone/alkyl treated yellow iron oxide</td>
<td>Yellow</td>
</tr>
<tr>
<td>KTP-09B</td>
<td>Silicone/alkyl treated black iron oxide</td>
<td>Black</td>
</tr>
<tr>
<td>KTP-09W</td>
<td>Silicone/alkyl treated titanium dioxide</td>
<td>White</td>
</tr>
</tbody>
</table>
When pigments aggregate in oil, then precipitate, the precipitate becomes bulky, but the KTP-09 series is significantly less bulky in all three oils. This shows that these pigments have high wettability in a wide range of oils and inhibit aggregation.

**INCI**

- **KTP-09R, KTP-09Y, KTP-09B**  IRON OXIDES, TRIETHOXYSILYLETHYL POLYDIMETHYSILoxyETHYL HEXYL DIMETHICONE
- **KTP-09W**  TITANIUM DIOXIDE, TRIETHOXYSILYLETHYL POLYDIMETHYSILoxyETHYL HEXYL DIMETHICONE, ALUMINUM HYDROXIDE

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