Innovating Sensory Solutions

Silicone / Alkyl Surface Treated Pigments

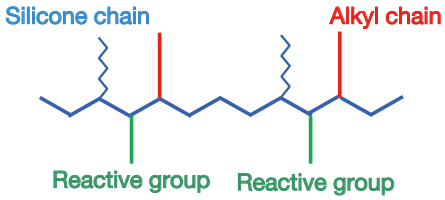
Shin-Etsu Silicone introduces a new series of silicone/alkyl surface treated pigments that feature high hydrophobicity and dispersing performance in a wide range of oils. They improve the quality of color cosmetics from liquid foundation to lip color and more.

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

NEW

Molecular Model of Surface Treatment Agent

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



Product Lineup

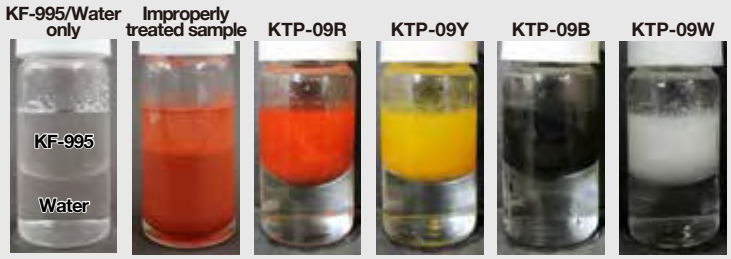
Product name	Content	Color
KTP-09R	Silicone/alkyl treated red iron oxide	Red
KTP-09Y	Silicone/alkyl treated yellow iron oxide	Yellow
KTP-09B	Silicone/alkyl treated black iron oxide	Black
KTP-09W	Silicone/alkyl treated titanium dioxide	White

Features

- **High hydrophobicity** — Optimal processing condition produce high hydrophobicity. Inhibits pigment aggregation and colored streaks in emulsified systems.
- **Excellent wetting in a wide range of oils** — Silicone and alkyl chains on the pigment surface provide high compatibility with a wide range of oils and facilitate easy dispersal.
- **Silky feel and good skin adherence** — Features both silkiness from the silicone and adherence from the alkyl chain.

Hydrophobicity

Observation of state in silicone fluid / water

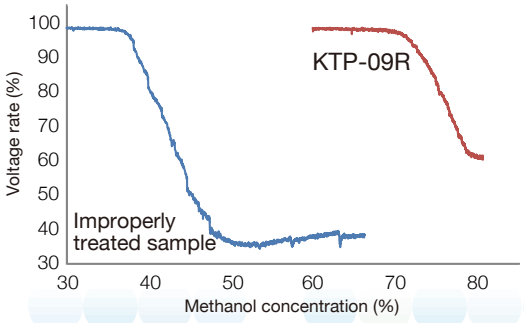


KF-995 (Cyclopentasiloxane): Water: Pigment=10g:10g:0.05g
Pigments dispersed in KF-995, water added. Mixture shaken and left to stand, then observed.

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.

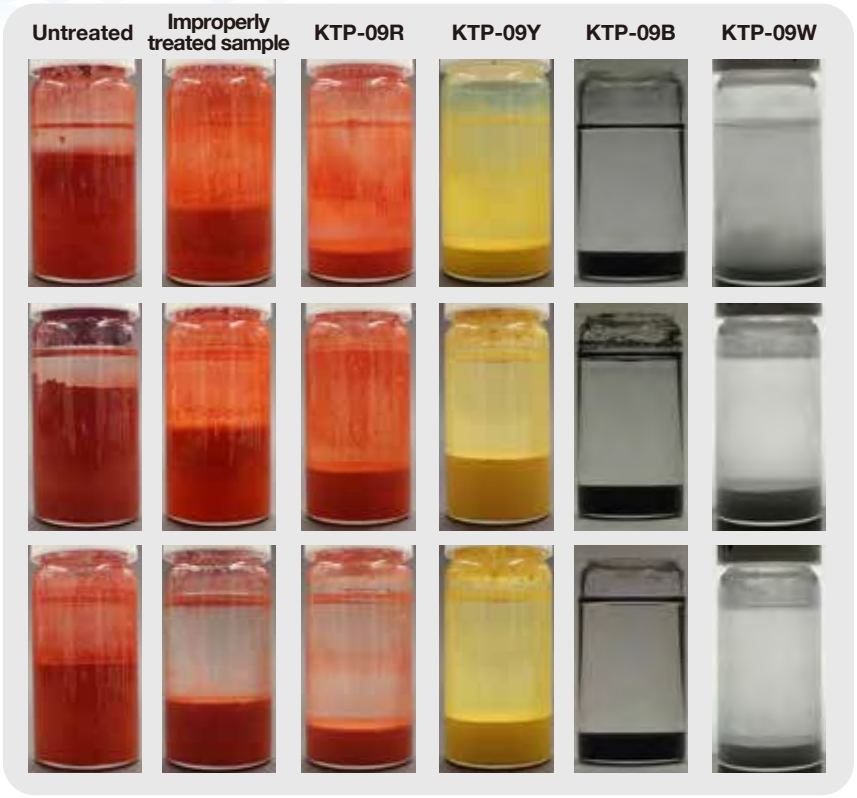
Wettability test in methanol aqueous solution

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.



WET1001 Wettability Tester (Rhesca)
Methanol drip amount: 10 mL/min, agitation speed: 500 rpm

State of Precipitation in Various Oils



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 POLYDIMETHYLSILOXYETHYL HEXYL DIMETHICONE
・KTP-09W	TITANIUM DIOXIDE, TRIETHOXYSILYLETHYL POLYDIMETHYLSILOXYETHYL HEXYL DIMETHICONE, ALUMINUM HYDROXIDE

http://www.shinetsusilicone-global.com/

The Development and Manufacture of Shin-Etsu Silicones are based on the following registered international quality and environmental management standards.

Gunma Complex	ISO 9001 (JCQA-0004)	ISO 14001 (JCQA-E-0002)
Naoetsu Plant	ISO 9001 (JCQA-0018)	ISO 14001 (JCQA-E-0064)
Takefu Plant	ISO 9001 (JQA-0479)	ISO 14001 (JQA-EM0298)

JAB CM009

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