

# Surface Treatment Map

Treatment Code	INCI	Properties	Formula Applications	Dispersion Availability
<b>Lipophilic Treatment</b>				
<b>ITT</b>	<i>Isopropyl Titanium Triisostearate</i>	<ul style="list-style-type: none"> <li>Highly Lipophilic</li> <li>Allows high pigment loading in esters, mineral oils or hydrocarbons; good for cream-to-powder formulations</li> <li>Improves compressibility in pressed powders and reduces breakage</li> <li>Excellent affinity to the skin</li> <li>Creamy skin feel</li> <li>US 5108736A</li> </ul>	KBL-015A    KLF-223A    KLP-179A KCP-018    KLG-082    KLP-234-BR KCP-043A-EU    KLP-133A-BR    KPP-099A KHP-009A    KLP-153    KPP-105-BR KLF-220B-BR    KLP-162    KPP-109-EU	(CO) <i>Ricinus Communis (Castor) Seed Oil</i> (INB/INW) <i>Isononyl Isononanoate (PMLVP) Isododecane (PT1BM) Phenyl Trimethicone (SW) Synthetic Wax (WE) Polyglyceryl-4 Isostearate, Cetyl PEG/PPG-10/1 Dimethicone, Hexyl Laurate</i>
<b>Silicone Treatment</b>				
<b>11S</b>	<i>Triethoxycaprylylsilane</i>	<ul style="list-style-type: none"> <li>Hydrophobic; Lipophilic</li> <li>Compatible with esters, oils &amp; silicones</li> <li>Stable at pH of 3</li> <li>No hydrogen potential</li> <li>Nice spreadability, creamy, wet feeling</li> </ul>	KBL-024    KLP-175    KPP-094A-BR KEY-048E-BR    KLP-177    KPP-114 KLF-233-BR    KLP-236    KPP-131A KLF-264D    KPP-064G    KSL-401	(FAS) <i>Cyclopentasiloxane, PEG/PPG-18/18 Dimethicone;</i> (FAND) <i>Dimethicone, PEG/PPG-18/18 Dimethicone</i>
<b>DS</b>	<i>Dimethicone</i>	<ul style="list-style-type: none"> <li>Hydrophobic</li> <li>Good slip and lubricity over methicone treatment</li> <li>Good for wet/dry powders and W/Si emulsions</li> </ul>	Recommended Applications: W/Si Emulsions, Hot Pours, Gels, Powders, Anhydrous Gels	-
<b>MS</b>	<i>Methicone</i>	<ul style="list-style-type: none"> <li>Very Hydrophobic</li> <li>Stable at pH 3-9</li> <li>Good for wet/dry powder and W/Si Emulsions</li> <li>Not very compatible with esters, oil and water based emulsions</li> </ul>	Recommended Applications: W/Si Emulsions, Hot Pours, Powders, Anhydrous Gels	-
<b>Hybrid Treatment</b>				
<b>11SP</b>	<i>Triethoxycaprylylsilane (and) Polyhydroxystearic Acid</i>	<ul style="list-style-type: none"> <li>Hydrophobic; Lipophilic</li> <li>Disperses easily into oil phase and develops full color fast</li> <li>Silky skin feel</li> <li>Pressed powders can be made using silicone as the sole liquid binder</li> <li>US 9662280B2; US 9254398B2; WO 2010111279; CN 102361702B; JP 6184099B2; EP 2411162A4</li> </ul>	KCC-014A-BR    KLF-158B KEY-099    KPP-031A	-
<b>TTB</b>	<i>Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone</i>	<ul style="list-style-type: none"> <li>Hydrophobic; Lipophilic</li> <li>"Super dispersible" in all media</li> <li>Stable over a range of pH</li> <li>Good skin affinity to skin, resulting in long wear</li> <li>US 10064792B2</li> </ul>	KEL-015    KLF-269    KPP-102A KLF-220-BR    KLP-172    KPW-003F KLF-224    KPP-067A	(CM) <i>Cyclopentasiloxane</i> (FAS) <i>Cyclopentasiloxane, PEG/PPG-18/18 Dimethicone</i> (FADM) <i>Dimethicone, PEG/PPG-18/18 Dimethicone</i>

## Fluorinated Treatment

**FS**

*Perfluorohexylethyl  
Triethoxysilane*

- Hydrophobic; Lipophobic
- Pigments display long wear and stay true color
- Excellent spreadability
- Suitable for wet/dry formulas and dry water formulas
- Environmentally friendly; No Perfluorooctanoic Acid (PFOA)
- Licensee of Avon US 6315990

KEY-046A-BR    KLP-171    KPP-112  
KEY-094    KLP-237A    KPW-015G  
KLP-167A    KPP-061D  
KLP-168    KPP-108-EU

(FAS) Cyclopentasiloxane,  
PEG/PPG-18/18 Dimethicone

**Recommended Applications:**  
Emulsions, Hot Pours, Powders

## Natural Treatment

**ASGP**

*Stearoyl Glutamic Acid  
(And) Polyhydroxystearic  
Acid*

- Hybrid treatment
- Hydrophobic; superdispersible
- Minimal energy use during grinding
- Quick, uniform color development
- Creamy feel, improved wear; aid in pressing powders
- US 9662280B2

KLP-269A

**Recommended Applications:**  
Emulsions, Hot Pours,  
Powders, Anhydrous Gels

**ASG**

*Stearoyl Glutamic  
Acid*

- Hydrophobic
- Ecocert approved
- Aluminum free
- Imparts a creamy feel particularly in powders
- Offers good skin adhesion of pigment to the skin
- Pigments disperse easily into recommended application

KBL-018A    KLP-145    KPP-116  
KCP-050    KMU-018D    KPW-028A  
KEY-039E    KMU-023B  
KLP-122B    KPP-104A

(DO) Diisostearyl Malate,  
Octyldodecanol  
(GCB) Caprylic/Capric Triglyceride  
(GCG) Caprylic/Capric Triglyceride

**Recommended Applications:**  
Emulsions, Hot Pours, Powders,  
Anhydrous Gels

**MM**

*Magnesium Myristate*

- Hydrophobic; Lipophilic
- Vegetable derived
- Highly creamy feel and low odor
- Good adhesion to the skin
- Improved wear
- Excellent pressability

KEY-029B

**Recommended Applications:**  
Hot Pours, Powders

**NJE**

*Jojoba Esters*

- Hydrophobic; Lipophilic
- Ecocert Approved
- Odorless; Excellent heat stability
- Creamy feel
- Good skin affinity
- Good pressability in powders
- US 8623386B2; WO 2009126859

KLK-092B    KMU-029A  
KLP-125    KPP-020E  
KPW-007H

(OD) Octyldodecanol  
(JOH) Simmondsia Chinensis  
(Jojoba) Seed Oil

**Recommended Applications:**  
Emulsions, Hot Pours, Powders, Gels

**NOE**

*Hydrogenated Olive Oil  
Stearyl Esters*

- Hydrophobic; Lipophilic
- Odorless; Excellent heat stability
- Soft and emollient feel
- Good skin affinity
- Powders can be pressed w/o additional dry binders

KPP-127

**Recommended Applications:**  
Anhydrous Hot Pours, Powders

**CL & NPC**

*Lecithin  
&  
Hydrogenated Lecithin*

- Hydrophobic yet moisturizing
- Highly creamy feel and good affinity to the skin
- Heat sensitive (CL)

KLF-259D-BR (NPC)

**Recommended Applications:**  
Hot Pours (NPC), Powders

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