

# Formulating For Diverse Complexions

Kobo offers a variety of pigmented and sun care ingredients to incorporate into formulations for diverse skin tones.

TiO<sub>2</sub> FX-50-I2 is a unique Titanium Dioxide that incorporates Iron Oxides to reduce the bright whiteness on skin and gives a more subtle and natural color. TiO<sub>2</sub> FX-50-I2 is a pigmentary TiO<sub>2</sub> with a yellowish appearance which provides a unique effect to facial products and helps to avoid a grey/whitening effect that is suitable for diverse skin shades.

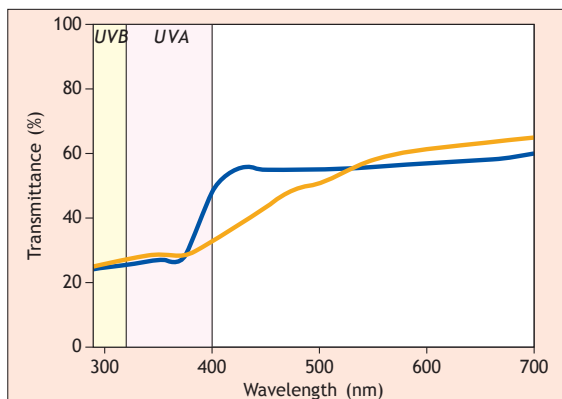
Transparent Iron Oxides are available in powder and in dispersion form. They are ideal for diverse skin tones to offer the right balance of transparency and coverage allowing for a more natural look. These materials provide SPF boosting effects and give added UVA protection. In sunscreen formulations, Transparent Iron Oxides reduce whitening and chalkiness while contributing to UV attenuation. [U.S. Patent No.: 2010/0061947 A1 for UV Protective Cosmetic Product Incorporating Titanium Dioxide and Transparent Iron Oxide]

## Dispersions

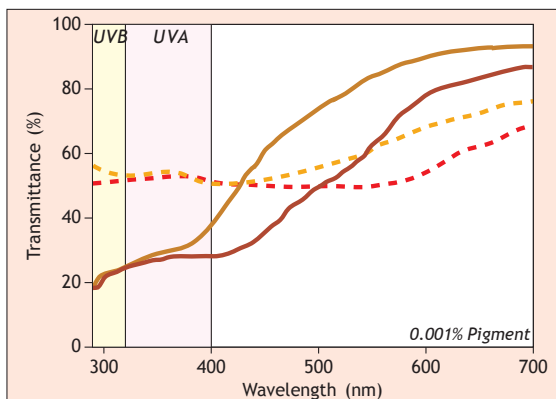
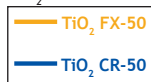
Carrier/ Solvent	Product Name	INCI Name
Silicone Emulsifiers	FAF40TRR	Cyclopentasiloxane (And) Iron Oxides (CI 77491) (And) Lauryl PEG-9 Polydimethylsiloxyethyl Dimethicone (And) Hydrogen Dimethicone (And) PEG/PPG-18/18 Dimethicone
	FAF40TRY	Cyclopentasiloxane (And) Iron Oxides (CI 77492) (And) Lauryl PEG-9 Polydimethylsiloxyethyl Dimethicone (And) Hydrogen Dimethicone (And) PEG/PPG-18/18 Dimethicone
Esters/Oils	TNP55TRR	Iron Oxides (CI 77491) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid
	TNP55TRY	Iron Oxides (CI 77492) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid
Natural Esters/Oils	COP40TRR <span style="color:red">New</span>	Ricinus Communis (Castor) Seed Oil (And) Iron Oxides (CI 77491) (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Triisostearate
	COP40TRY <span style="color:red">New</span>	Ricinus Communis (Castor) Seed Oil (And) Iron Oxides (CI 77492) (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Triisostearate
	GCG50TRSG <span style="color:red">New</span>	Iron Oxides (CI 77491) (And) Caprylic/Capric Triglyceride (And) Polyglyceryl-3 Diisostearate (And) Stearoyl Glutamic Acid
	GCG50TYSG <span style="color:red">New</span>	Iron Oxides (CI 77492) (And) Caprylic/Capric Triglyceride (And) Polyglyceryl-3 Diisostearate (And) Stearoyl Glutamic Acid
Volatile Non-D5 Silicones	DIM2F50TRR	Dimethicone (And) Iron Oxides (CI 77491) (And) PEG-9 Polydimethylsiloxyethyl Dimethicone (And) Hydrogen Dimethicone (And) Polyglyceryl-4 Isostearate (And) Cetyl PEG/PPG-10/1 Dimethicone (And) Hexyl Laurate
	DIM2F45TRY	Dimethicone (And) Iron Oxides (CI 77492) (And) PEG-9 Polydimethylsiloxyethyl Dimethicone (And) Hydrogen Dimethicone (And) Polyglyceryl-4 Isostearate (And) Cetyl PEG/PPG-10/1 Dimethicone (And) Hexyl Laurate

## Powders

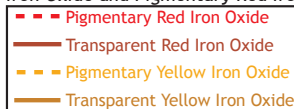
Properties	Product Name	INCI Name
Hydrophilic	TiO <sub>2</sub> FX-50	Titanium Dioxide (And) Aluminum Hydroxide (And) Iron Oxides (CI 77491)
Hydrophobic	TiO <sub>2</sub> FX-50-I2	Titanium Dioxide (And) Aluminum Hydroxide (And) Isopropyl Titanium Triisostearate (And) Iron Oxides (CI 77491)



Transmittance Curve of TiO<sub>2</sub> FX-50 compared to uncolored TiO<sub>2</sub> CR-50 in Cosmetic Oil Systems



Transmittance Curves of Transparent Yellow Iron Oxide and Transparent Red Iron Oxide Compared to Pigmentary Yellow Iron Oxide and Pigmentary Red Iron Oxide



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## Stick Bronzer with TTB Treatment

KMU-008

### Part 1

● Peleem TGC - Phoenix Chemicals: <i>Triethylhexyl Citrate</i>	34.70%
● Ultrapure SC White Petrolatum USP - Ultra Chemical, Inc.: <i>Petrolatum</i>	10.50%
● <b>BTD-TTB2</b> - Kobo Products: <i>Titanium Dioxide (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone</i>	10.05%
● Lanolin, USP AAA - Lubrizol: <i>Lanolin</i>	7.00%
● <b>TNP55TRR</b> - Kobo Products: <i>Iron Oxides (CI 77491) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid</i>	4.00%
● <b>TNP55TRY</b> - Kobo Products: <i>Iron Oxides (CI 77492) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid</i>	4.00%
● Castor Oil - Arista Industries, Inc.: <i>Ricinus Communis (Castor) Seed Oil</i>	3.50%
● <b>KOBOGUARD® 5400 CCT</b> - Kobo Products: <i>Hydrogenated Polycyclopentadiene (And) Caprylic/Capric Triglyceride</i>	3.00%
● Shea Butter - Cognis Corp: <i>Shea Butter</i>	1.50%
● Lexgard® O - Inolex Chemical Company: <i>Caprylyl Glycol</i>	1.00%
● <b>BGYO-TTB2</b> - Kobo Products: <i>Iron Oxides (CI 77492) (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone</i>	0.80%
● Covi-Ox® T-50 - Cognis Corp.: <i>Tocopherol</i>	0.50%
● <b>MICA S-I2</b> - Kobo Products: <i>Mica (And) Isopropyl Titanium Triisostearate</i>	0.50%
● <b>BGRO-TTB2</b> - Kobo Products: <i>Iron Oxides (CI 77491) (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone</i>	0.17%
● <b>BGBO-TTB2</b> - Kobo Products: <i>Iron Oxides (CI 77499) (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone (And) Isopropyl Titanium Triisostearate</i>	0.08%

### Part 2

● Ozokerite Wax White SP 1020P - Strahl & Pitsch, Inc.: <i>Ozokerite</i>	5.60%
● Candelilla Wax SP 75 - Strahl & Pitsch, Inc.: <i>Euphorbia Cerifera (Candelilla) Wax</i>	2.80%
● Softisan 100 - Sasol: <i>Hydrogenated Coco-Glycerides</i>	2.50%
● Synthetic Beeswax Pastilles SP755P - Strahl & Pitsch, Inc.: <i>Synthetic Beeswax</i>	2.50%
● Carnauba Wax SP 63P - Strahl & Pitsch, Inc.: <i>Copernicia Cerifera (Carnauba) Wax</i>	2.30%

### Part 3

● <b>MSP-AK06</b> - Nikko Rica/Kobo Products: <i>Polymethylsilsequioxane (And) Alumina</i>	1.50%
● Tropical Fragrance #109-00566 - American Flavors & Fragrance: <i>Fragrance</i>	1.50%

### Manufacturing Procedure

1. Combine Part 1 ingredients and heat to 80° C, with propeller mixing.
2. Add Part 2 to Part 1 and continue mixing at 80° C.
3. Combine Part 3 ingredients, add to batch at 80° C and continue mixing.
4. Begin cooling to 65° C and pour into molds.

### Description

This bronzer wand gives skin a sun-kissed glow. Kobo's TTB-Treated Pigments are used to enhance formula wear and to showcase the ease of use in this formula. Transparent Iron Oxides offer low coverage to improve skin appearance. KOBOGUARD® 5400 CCT forms a film on the skin to help provide long wear properties. Kobo's ITT treated MICA S-I2, gives the formula a luminous effect. MSP-AK06, a polymethylsilsequioxane (PMSQ) microsphere composite, is used for optical enhancement.

in vivo SPF 31.5  
in vivo UVA-PF 10.8  
CW 378

## Blemish Balm Cream with SPF featuring TiO<sub>2</sub> FX-50-I2

Formula KLF-059A-CH

### Part 1

● Parsol® MCX - DSM Nutritional Products: <i>Ethylhexyl Methoxycinnamate</i>	5.00%
● ABIL® WE 09 - Evonik: <i>Polyglyceryl-4 Isostearate (And) Cetyl PEG/PPG-10/1 Dimethicone (And) Hexyl Laurate</i>	4.50%
● Lexol® PG-865 - Inolex Chemical Company: <i>Propylene Glycol Dicaprylate/Dicaprate</i>	1.75%
● SALACOS® 99 - Ikeda Corporation: <i>Isononyl Isononanoate</i>	1.75%
● Thixcin® R - Elementis Specialties: <i>Trihydroxystearin</i>	1.20%
● SF1555 - Momentive: <i>Bis-Phenylpropyl Dimethicone</i>	0.75%

### Part 2

● <b>TNP50T7</b> - Kobo Products: <i>C12-15 Alkyl Benzoate (And) Titanium Dioxide (And) Alumina (And) Polyhydroxystearic Acid (And) Methicone</i>	18.00%
● <b>TiO<sub>2</sub> FX-50-I2</b> - Kobo Products: <i>Titanium Dioxide (And) Aluminum Hydroxide (And) Isopropyl Titanium Triisostearate (And) Iron Oxides (CI 77491)</i>	8.00%
● ELEMENT14 PDMS 5-A - Momentive: <i>Dimethicone</i>	5.25%
● KF-6017 - Shin Etsu: <i>PEG-10 Dimethicone</i>	2.80%
● <b>FAS55ERSI-E</b> - Kobo Products: <i>Iron Oxides (CI 77491) (And) Cyclopentasiloxane (And) PEG/PPG-18/18 Dimethicone (And) Triethoxycaprylylsilane (And) Tocopheryl Acetate</i>	0.35%
● <b>FAS60EBSI-E</b> - Kobo Products: <i>Iron Oxides (CI 77499) (And) Cyclopentasiloxane (And) PEG/PPG-18/18 Dimethicone (And) Triethoxycaprylylsilane (And) Tocopheryl Acetate</i>	0.20%

### Part 3

● Deionized Water	40.80%
● Glycerin U.S.P. Natural 96% - Cognis Corp.: <i>Glycerin</i>	2.00%
● Germaben® II - ISP: <i>Propylene Glycol (And) Diazolidinyl Urea (And) Methylparaben (And) Propylparaben Sodium Chloride</i>	1.00%
● Sodium Chloride - Morton Salt: <i>Sodium Chloride</i>	1.00%
● Butylene Glycol - Tri-K Industries: <i>Butylene Glycol</i>	1.00%
● Jeecide CAP-5 - Jeen International: <i>Phenoxyethanol (And) Caprylyl Glycol (And) Potassium Sorbate (And) Water (And) Hexylene Glycol</i>	0.50%
● Tween™ 20 - Croda: <i>Polysorbate 20</i>	0.35%
● <b>Gs-GT</b> - Kobo Products: <i>Water (And) Camellia Sinensis Extract (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) Phenoxyethanol (And) Parabens (and) Hydrogenated Lecithin</i>	0.25%

● <b>Gs-PPY</b> - Kobo Products: <i>Water (And) Papain (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) Phenoxyethanol (And) Hydrogenated Lecithin (And) Parabens</i>	0.25%
● Allantoin - Jeen International: <i>Allantoin</i>	0.10%
● IBR-CalmDeAge™ 1201 - Taos Inc.: <i>Glycerin (And) Water (And) Phoenix Dactylifera (Date) Seed Extract</i>	0.05%
● Bioskinup Contour - Taos Inc.: <i>Water (And) Butylene Glycol (And) PEG-40 Hydrogenated Castor Oil (And) Ptychopetalum Olacoides Bark/Stem Extract (And) Paffia Paniculata Root Extract (And) Liliium Candidum Flower Extract</i>	0.05%
● IBR-Snowflake® 1001 - Taos Inc.: <i>Water (And) Leucosium Aestivum Bulb Extract</i>	0.05%
● Activespheres VIT C PMg - Taos Inc.: <i>Water (And) Butylene Glycol (And) Magnesium Ascorbyl Phosphate (And) Sodium Chondroitin Sulfate (And) Atelocollagen (And) Xanthum Gum (And) Polysorbate 20</i>	0.05%

### Part 4

● <b>MSS-500W</b> - Kobo Products: <i>Silica</i>	3.00%
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### Manufacturing Procedure

1. Combine Thixcin® R with Parsol® MCX and Lexol® PG-865 and heat to 55-60° C. Homogenize for 20 minutes while maintaining the temperature at 55-60° C to allow full activation. Cool to below 35° C with low to medium stirring. Add the remaining ingredients in Part 1 and homogenize.
2. Homogenize Parts 1 and 2 together.
3. Add Part 3 while homogenizing.
4. Add Part 4 while homogenizing.

### Description

This BB cream foundation formula features Kobo's Titanium Dioxide Dispersion, TNP50T7, to help achieve SPF. TiO<sub>2</sub> FX-50-I2 is a unique Titanium Dioxide that incorporates iron oxides to reduce the bright whiteness on skin and give a more subtle and natural color. Kobo's FAS Pigmentary Dispersions provide outstanding coverage and MSS-500W gives excellent application and soft focus. Glycospheres, Gs-GT and Gs-PPY, aid in skin whitening, cell turnover, and acne control.

### Active Ingredient(s):

Ethylhexyl Methoxycinnamate	5.00%
Titanium Dioxide	6.93%

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