

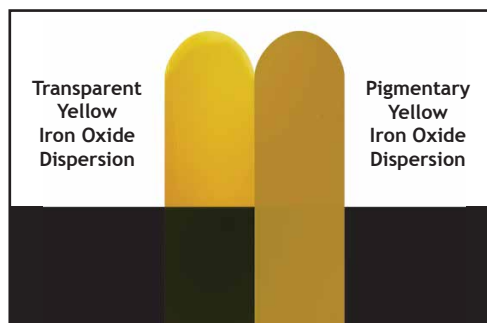
Transparent Iron Oxides Dispersions & Powders

Transparent Iron Oxides offer many benefits for use in personal care applications, particularly, a Natural Finish on the skin, SPF Boosting and added UVA Protection. When incorporated into sunscreen products they tint the formula reducing the appearance of whitening and chalkiness, while also contributing to UV Attenuation. In Ethnic Products, Transparent Iron Oxides offer the right balance of transparency and coverage that allows a natural look.

Transparent Iron Oxides are much smaller than regular iron oxides, and therefore the particles tend to agglomerate very strongly, making them difficult to disperse. Kobo offers dispersions as well as surface treated powders of Transparent Iron Oxides that can easily be incorporated into a formulation.

Kobo Transparent Iron Oxide Patent Information:

U.S. Patent No.: 2010/0061947 A1 for UV Protective cosmetic product incorporating Titanium Dioxide and Transparent Iron Oxide



Stick Bronzer with TTB Treatment

KMU-008

Part 1

- Pelemol TGC - Phoenix Chemicals: *Triocetyl dodecyl Citrate* 34.70%
- Ultrapure SC White Petrolatum USP - Ultra Chemical, Inc.: *Petrolatum* 10.50%
- **BTDT-TTB2** - Kobo Products: *Titanium Dioxide (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone* 10.05%
- Lanolin, USP AAA - Lubrizol: *Lanolin* 7.00%
- **TNP55TRR** - Kobo Products: *Iron Oxides (CI 77491) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid* 4.00%
- **TNP55TRY** - Kobo Products: *Iron Oxides (CI 77492) (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid* 4.00%
- Castor Oil - Arista Industries, Inc.: *Ricinus Communis (Castor) Seed Oil* 3.50%
- **KOBOGUARD® 5400 CCT** - Kobo Products: *Hydrogenated Polycyclopentadiene (And) Caprylic/Capric Triglyceride* 3.00%
- Shea Butter - Cognis Corp.: *Shea Butter* 1.50%
- Lexgard® O - Inolex Chemical Company: *Caprylyl Glycol* 1.00%
- **BGYO-TTB2** - Kobo Products: *Iron Oxides (CI 77492) (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone* 0.80%
- Covi-Ox® T-50 - Cognis Corp.: *Tocopherol* 0.50%
- **MICA S-12** - Kobo Products: *Mica (And) Isopropyl Titanium Triisostearate* 0.50%
- **BGRO-TTB2** - Kobo Products: *Iron Oxides (CI 77491) (And) Isopropyl Titanium Triisostearate (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone* 0.17%
- **BGBO-TTB2** - Kobo Products: *Iron Oxides (CI 77499) (And) Triethoxysilylethyl Polydimethylsiloxyethyl Dimethicone (And) Isopropyl Titanium Triisostearate* 0.08%

Part 2

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

Part 3

- **MSP-AK06** - Nikko Rica/Kobo Products: *Polymethylsilsesquioxane (And) Alumina* 1.50%
- Tropical Fragrance #109-00566 - American Flavors & Fragrance: *Fragrance* 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-12, gives the formula a luminous effect. MSP-AK06, a polymethylsilsesquioxane (PMSQ) microsphere composite, is used for optical enhancement.

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Transparent Iron Oxides

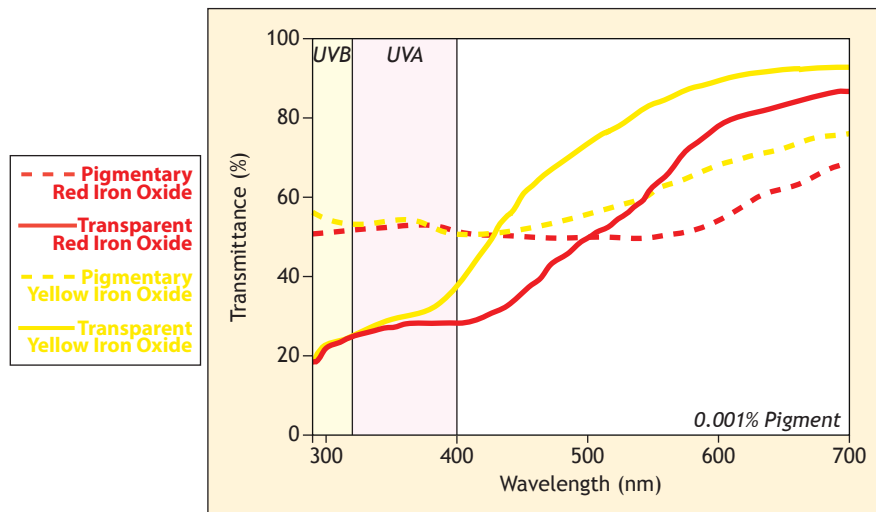
Dispersions

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 <small>New</small>	Ricinus Communis (Castor) Seed Oil (And) Iron Oxides (CI 77491) (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Triisostearate
	COP40TRY <small>New</small>	Ricinus Communis (Castor) Seed Oil (And) Iron Oxides (CI 77492) (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Triisostearate
	GCG50TRSG <small>New</small>	Iron Oxides (CI 77491) (And) Caprylic/Capric Triglyceride (And) Polyglyceryl-3 Diisostearate (And) Stearoyl Glutamic Acid
	GCG50TYSG <small>New</small>	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
Hydrophobic	TRR-100-MS7	Iron Oxides (CI 77491) (And) Methicone
	TRY-100-MS7	Iron Oxides (CI 77492) (And) Methicone
Hydrophilic	TRR-100-SW2	Iron Oxides (CI 77491) (And) PEG-8 Methyl Ether Triethoxysilane
	TRY-100-SW2	Iron Oxides (CI 77492) (And) PEG-8 Methyl Ether Triethoxysilane

* Please note, Transparent Iron Oxides are extremely difficult to disperse. Kobo dispersions containing these powders are highly recommended when possible. This will ensure fully dispersed particles in the final formula.



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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