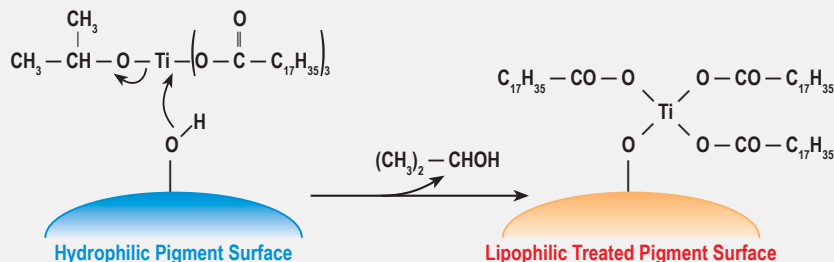


Titanate Treatment



INCI name: Isopropyl Titanium Triisostearate

Code: ITT



US 5108736A

Method of incorporating cosmetic pigments and bases into products containing oil and water phases

Since the O-Ti bond is very liable to the attack of hydroxyl groups and the isopropoxy group can be easily removed, ITT is very reactive to almost all pigments and forms a uniform coating of lipophilic isostearate groups. There are abundant fatty ester groups on the treated surface; therefore, the titanate treated pigments can be easily wetted by and dispersed in organic vehicles, like esters, mineral oils or petrolatum. Oil absorption is substantially reduced and loading of the pigments in the formula can thus be increased.

The unique properties of titanate treatment are clearly demonstrated by dispersing a treated pigmentary TiO₂ in an ester: the viscosity is dramatically reduced compared to non-treated pigment or to pigments treated either with methicone or silane (see picture below).

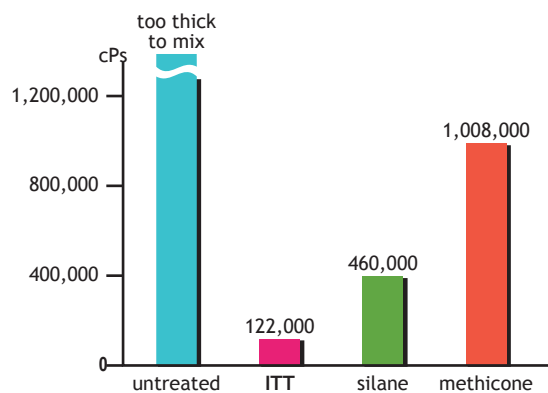
Titanate-treated pigments and powders are dispersible in

many esters, natural oils, and hydrocarbons at over 70% solids; optimizing the percent solids of the dispersion will fully develop pigment properties.

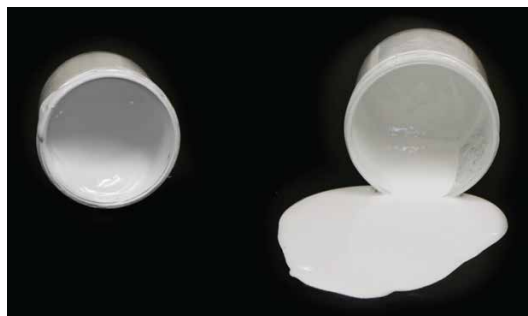
Since these treated pigments disperse so well and have an excellent affinity to the skin, they are used to develop dry (non-greasy) feeling cream to powder formulas, one-step make-ups and to create new types of liquid foundations, cheek color, eye-shadow and sunscreen formulations.

Viscosity of 40% Titanium Dioxide dispersions in Octyldodecyl Neopentanoate

(40% titanium dioxide in Elefac I-205)



ITT-treated pigment dispersion in an ester has a lower viscosity than untreated or silane and silicone treated pigment.



Viscosity is reduced by ITT treatment: while a dispersion of non-treated pigment in an ester (40% solids in Elefac I-205) is unable to flow, the same amount of ITT-treated pigment dispersed in the same ester gives a liquid dispersion.

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A solid surface can be wetted spontaneously by a liquid consisting of a lower surface energy. Compared with silicones or fluorinated coating, ITT has a much higher surface energy. This makes pigments containing ITT Surface Treatment much easier to be wetted by esters and oils. There is a lot of interest in formulating high pigment products for today's market, especially lipsticks. Kobo has the technology to produce extremely high percentage pigment dispersions using our patented ITT treatment, which can contribute to end products of high intensity

shades. INBP (Ester) and SW (Synthetic Wax) dispersions containing ITT treatment offer full color development and ease of manufacturing. Lipstick formula KLP-024C (see below) offers intense color using 18% pigment from only 30% dispersions, leaving more room for additional pigment or other ingredients, if desired. If formulated with conventional dispersions of about 28% pigment, this formula would need at least 64% of dispersion to achieve the 18% pigment. The same intensity and feel would not be achievable.



KLP-024C Scarlet Intense Color Lipstick

Part 1

● Castor Oil - Alzo International Inc.: <i>Ricinus Communis (Castor) Seed Oil</i>	16.91%
● Softisan® 645 - Sasol: <i>Bis-Diglyceryl Polyacyladipate-1</i>	12.00%
● Wickenol 155 - Alzo International Inc.: <i>Ethylhexyl Palmitate</i>	11.00%
● Candelilla Wax SP 75 - Strahl & Pitsch: <i>Euphorbia Cerifera (Candelilla) Wax</i>	6.00%
● Ozokerite Wax White SP 1020 - Strahl & Pitsch: <i>Ozokerite</i>	4.50%
● Lipowax® D - Lipo Chemicals: <i>Cetearyl Alcohol (And) Ceteareth-20</i>	3.00%
● Microcrystalline Wax SP-89 - Strahl & Pitsch: <i>Microcrystalline Wax</i>	2.00%
● MSS-500/3H - Kobo Products: <i>Silica</i>	1.00%
● BHT Food Grade Crystal - Protameen: <i>BHT</i>	0.10%
● Propyl Paraben NF - International Sourcing: <i>Propylparaben</i>	0.10%

Part 2

● INBP45R7C - Kobo Products: <i>Red 7 Lake (And) Isononyl Isononanoate (And) Isopropyl Myristate (And) Stearalkonium Hectorite (And) Isopropyl Titanium Triisostearate (And) Propylene Carbonate (And) Polyhydroxystearic Acid</i>	15.00%
● INBP75ER - Kobo Products: <i>Iron Oxides (CI 77491) (And) Isononyl Isononanoate (And) Isopropyl Myristate (And) Stearalkonium Hectorite (And) Polyhydroxystearic Acid (And) Isopropyl Titanium Triisostearate (And) Propylene Carbonate</i>	15.00%
● Shea Butter - Cognis Corp: <i>Shea Butter</i>	2.50%
● Castor Oil - Alzo International Inc.: <i>Ricinus Communis (Castor) Seed Oil</i>	0.89%

Part 3

● KOBOGUARD® 5400 CCT - Kobo Products: <i>Hydrogenated Polycyclopentadiene (And) Caprylic/Capric Triglyceride</i>	5.00%
● KTZ® CLASSIC WHITE-I2 - Kobo Products: <i>Mica (And) Titanium Dioxide (And) Isopropyl Titanium Triisostearate</i>	5.00%

Manufacturing Procedure

1. In main tank equipped with propeller agitation, combine Part 1 ingredients and heat to 80°C - 85°C in water bath.
2. Premix part 2 ingredients until homogeneous.
3. Continue mixing Part 1 for 20 minutes and add Part 2 to Part 1.
4. Add Part 3 to batch and continue mixing for 30 minutes.
5. Once shade is adjusted, begin force cooling batch. Continue cooling to 78°C - 80°C.
6. Pour into molds at 78°C - 80°C.

Note: Keep continual mixing before and after each mold.

Description

This creamy and vibrant formula features an intense color payoff and shiny finish. Scarlet Intense Color Lipstick contains Kobo's Pigmentary Dispersions, INBP75ER and INBP45R7C, which are used for their high percentage of color. They also help to improve wear and formula aesthetics. KTZ® CLASSIC WHITE is treated with ITT for optimal glide and creates a shimmering, frosted effect. Kobo's Microsphere, MSS-500/3H, is used to achieve better application and helps to reduce sweating. KOBOGUARD® 5400 CCT gives gloss to the formula and helps to provide long wear properties.

Trade Name	INCI Name	Product Type
BRO-I2	<i>Iron Oxides (CI 77491) (And) Isopropyl Titanium Triisostearate</i>	Red Iron Oxide
BYO-I2	<i>Iron Oxides (CI 77492) (And) Isopropyl Titanium Triisostearate</i>	Yellow Iron Oxide
BBO-I2	<i>Iron Oxides (CI 77499) (And) Isopropyl Titanium Triisostearate</i>	Black Iron Oxide
BBR-I2	<i>Iron Oxides (And) Isopropyl Titanium Triisostearate</i>	Brown Iron Oxide
BGCO-I2	<i>Chromium Oxide Greens (And) Isopropyl Titanium Triisostearate</i>	Green Chromium
BHG-I3	<i>Chromium Hydroxide Greens (And) Isopropyl Titanium Triisostearate</i>	Green Chromium Hydroxide
BMV-I2	<i>Manganese Violet (And) Isopropyl Titanium Triisostearate</i>	Manganese Violet
BUB-I2	<i>Ultramarines (And) Isopropyl Titanium Triisostearate</i>	Ultramarine Blue
BUV-I2	<i>Ultramarines (And) Isopropyl Titanium Triisostearate</i>	Ultramarine Violet
BTD-V-I2		
BTD-401	<i>Titanium Dioxide (And) Isopropyl Titanium Triisostearate</i>	Pigmentary TiO ₂
RBD-I2		
ZnO-PCC-I3	<i>Zinc Oxide (And) Isopropyl Titanium Triisostearate</i>	Pigmentary ZnO
BLUE 1AL-I2	<i>Blue 1 Lake (And) Isopropyl Titanium Triisostearate</i>	FD&C Blue No. 1 Aluminum Lake
RED 6BA S8-I2	<i>Red 6 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 6 Barium Lake
RED 7CA E-I2	<i>Red 7 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 7 Calcium Lake
RED 7CA K-I2	<i>Red 7 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 7 Calcium Lake
RED 27AL-I2	<i>Red 27 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 27 Aluminum Lake
RED 28AL KL-I3		
RED 28AL U-I3	<i>Red 28 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 28 Aluminum Lake
RED 33AL-I5	<i>Red 33 Lake (And) Isopropyl Titanium Triisostearate</i>	D&C Red No. 33 Aluminum Lake
RED 40AL-I2	<i>Red 40 Lake (And) Isopropyl Titanium Triisostearate</i>	FD&C Red No. 40 Aluminum Lake
YELLOW 5AL-I2	<i>Yellow 5 Lake (And) Isopropyl Titanium Triisostearate</i>	FD&C Yellow No. 5 Aluminum Lake
YELLOW 6AL C-I2	<i>Yellow 6 Lake (And) Isopropyl Titanium Triisostearate</i>	FD&C Yellow No. 6 Aluminum Lake
BPA-5I5	<i>Polymethyl Methacrylate (And) Isopropyl Titanium Triisostearate</i>	Polymer Microsphere
CELLULOBEADS D-10-I3	<i>Cellulose (And) Isopropyl Titanium Triisostearate</i>	Natural Polymer Microsphere
NYLON 10-I2	<i>Nylon 12 (And) Isopropyl Titanium Triisostearate</i>	Polymer Microsphere
GMS-I2		Sericite
MICA S-I2	<i>Mica (And) Isopropyl Titanium Triisostearate</i>	Mica
KAOLIN-I3	<i>Kaolin (And) Isopropyl Titanium Triisostearate</i>	Kaolin Filler
ASO-I2	<i>Aluminum Starch Octenylsuccinate (And) Isopropyl Titanium Triisostearate</i>	Aluminum Starch Octenylsuccinate
TiO2 STT-65S-I3	<i>Titanium Dioxide (And) Isopropyl Titanium Triisostearate</i>	UV-Attenuation TiO ₂
MZO-35-I3		
ZnO-USP1-I2	<i>Zinc Oxide (And) Isopropyl Titanium Triisostearate</i>	UV-Attenuation ZnO
ZnO-C-I2		
TiO2-IR300-I2	<i>Titanium Dioxide (And) Isopropyl Titanium Triisostearate</i>	
A1K-TiO2-I2	<i>Titanium Dioxide (And) Aluminum Hydroxide (And) Isopropyl Titanium Triisostearate</i>	IR-Attenuation TiO ₂



KLP-288-BR Semilustrous Rose Lipstick

Part 1

● SALACOS® 99 - Kobo Products: <i>Isononyl Isononanoate</i>	21.92%
● Óleo de Mamona - Engenharia das Essências: <i>Ricinus Communis (Castor) Seed oil</i>	20.00%
● TEGOSOFT® CT - Evonik: <i>Caprylic/Capric Triglycerides</i>	11.00%
● Ozokerite Wax White SP 1020 - Strahl & Pitsch: <i>Ozokerite</i>	10.74%
● TECWAX CARNAUBA - Fenix Ceras: <i>Carnauba Wax</i>	4.00%
● Beeswax White Sp 422P - Strahl & Pitch: <i>Beeswax</i>	4.00%
● COSMOL™ 168ARV - Ikeda/Kobo Products: <i>Dipentaerythryl Hexahydroxystearate/Hexastearate/Hexarosinate</i>	3.00%

Part 2

● BTD-401 - Kobo Products: <i>Titanium Dioxide (And) Isopropyl Titanium Triisostearate</i>	13.09%
● PM WAX 82 - Toray/Kobo Products: <i>Polyethylene (And) Microcrystalline Wax</i>	4.50%
● BRO-I2 - Kobo Products: <i>Iron Oxides (CI 77491) (And) Isopropyl Titanium Triisostearate</i>	3.65%
● RED 7CA K-I2 - Kobo Products: <i>Red 7 Lake (And) Isopropyl Titanium Triisostearate</i>	2.20%

Part 3

● MSS-500/3H - Kobo Products: <i>Silica</i>	1.00%
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Part 4

● Phenoxyethanol - Cosmotec: <i>Phenoxyethanol</i>	0.90%
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Manufacturing Procedure

1. Heat Part 1 to 80 C under propeller mixing.
2. Add Part 2. Mix for 10 minutes until uniform.
3. Add Part 3. Mix until uniform.
4. Add Part 4. Mix until uniform.

Description

This creamy textured lipstick has excellent compatibility with the skin and provides a slightly dry touch to the lips. Kobo's ITT treated pigments (BTD-401, BRO-I2 and RED 7CA K-I2) are used to make the shade and enhance affinity to the skin. COSMOL™ 168ARV (a substitute for wool-derived lanolin with superior oxidative stability) helps with formula stability, and PM WAX 82, a combination of waxes, is used to structure the lipstick. SALACOS® 99 aids with bullet spreadability. MSS-500/3H is a Silica microspheres that give a glide-on application.



KBL-037 Creamy Hot Pour Face Bronzer

Part 1

● Neossance Hemisqualane - Aprinova, LLC: <i>C13-15 Alkane</i>	32.60%
● Elefac® I-205 - Alzo International Inc.: <i>Octyldodecyl Neopentanoate</i>	11.60%
● Lameform® TGI - BASF: <i>Polyglycerol-3 Diisostearate</i>	2.00%
● CXG-1104 - Avantor/Kobo Products: <i>Dimethicone (And) Dimethicone/Vinyl Dimethicone Crosspolymer</i>	2.00%
● Lexgard® O - Inolex: <i>Caprylyl Glycol</i>	0.50%

Part 2

● VEGETABLE WAX-SS1 (Non-GMO) - Ikeda: <i>Helianthus Annuus (Sunflower) Seed Wax (And) Phytosterols</i>	17.00%
● Softisan® 100 - IOI Oleo GmbH: <i>Hydrogenated Coco-Glycerides</i>	2.00%
● NOMCORT® HK-G - Ikeda: <i>Glyceryl Behenate/Eicosadioate</i>	1.30%

Part 3

● KTZ® BRONZE D OR-I2 - Kobo Products: <i>Mica (And) Iron Oxides (CI 77491) (And) Isopropyl Titanium Triisostearate</i>	15.00%
● Kobo SMC-BNCW - Kobo Products: <i>Boron Nitride (And) Cellulose</i>	14.00%
● SILICA SHELLS - Kobo Products: <i>Silica</i>	2.00%

Manufacturing Procedure

1. In Part 1, pre-mix Elefac® I-205 and CXG-1104 in a separate container, set aside.
2. In a clean tank, combine the rest of ingredients in Part 1 and mix until homogeneous. Heat the bulk to 80°C.
3. Add Part 2, continue mixing at temperature for 30 minutes until all the waxes are melted and the bulk is homogeneous.
4. Add powders in Part 3 with slow mixing one at a time, adding KTZ® BRONZE D OR-I2 last.
5. Pour into metal pans at 75°C .

Description

A hot pour and talc-free face bronzer with a soft creamy feel. This formula features Kobo SMC-BNCW used for good coverage and slip. KTZ® BRONZE D OR-I2 provides a light shimmery appearance that accentuates and lifts the cheekbones. CXG-1104 is an elastomer gel for lasting color and an extra creamy feel while SILICA SHELLS with a high oil absorption, absorbs excess skin sebum and keeps the face with a fresh natural glow.