

# TNSS Dispersions



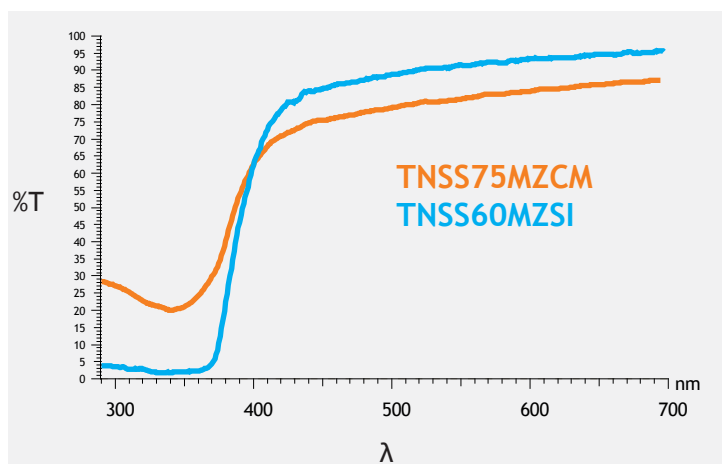
To aid the chemist to create sunscreen products providing a high protection against UVA radiation, a huge trend in the current market, Kobo Products offers two dispersions of zinc oxide in ethylhexyl methoxycrylene.

**TNSS75MZCM** is a dispersion of ZnO in non-nano form with a primary particle size exceeding 100 nm (measurements acquired through image analysis). This dispersion provides excellent protection against long wavelength UVA. Second, **TNSS60MZSI**, a dispersion of ZnO with a primary particle size around 35 nm, provides high UVB protection, in addition to UVA, and is minimally whitening. The carrier, ethylhexyl methoxycrylene, is being marketed as a photo stabilizer, and an outstanding vehicle for

inorganic UV filters. It boosts the UVA protection itself (EC 340 = 8,000). These dispersions can also be used with other sun boosters and organic UV absorbers to create sunscreen products with a high protective effect.

Kobo's dispersion technology containing ZnO are excellent for limited whitening and a pleasant skin feel upon application. These dispersions can also boost critical wavelength over using ZnO on its own.

## Transmittance Curve



Formula Reference	Actives	In Vivo SPF	PFA	% Boost on SPF	% Boost on PFA
KSL-265	TiO <sub>2</sub> 3.54% ZnO 7.15%	33	11	Control	
KSL-271	TiO <sub>2</sub> 3.54% *ZnO 7.15%	66	21	100%	91%

\*Active Ingredient in TNSS75MZCM

Conditions:  
Concentration of ZnO: 0.005%  
Solvent: Chloroform  
Sonication: 10s in water bath Measured using integrated sphere

Product Name	INCI Name	Primary Part. Size	Particle Size*	ZnO Content	Viscosity
<b>New</b> TNSS75MZCM (Non-Nano ZnO active)	Zinc Oxide (and) Ethylhexyl Methoxycrylene (and) C12-15 Alkyl Benzoate (and) Polyhydroxystearic Acid (and) Hydrogen Dimethicone	265 nm	271 nm	72%	Paste
<b>New</b> TNSS60MZSI (Attenuation Grade ZnO active)	Zinc Oxide (and) Ethylhexyl Methoxycrylene (and) C12-15 Alkyl Benzoate (and) Polyhydroxystearic Acid (and) Triethoxycaprylylsilane	35 nm	171 nm	58%	Paste

\*Note: Some liquid separation in these dispersions is characteristic and does not impact their performance in formulations

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## KLP-126B Clear Lip Balm with SPF



### Part 1

● CO15M5 - Kobo Products: <i>Ricinus Communis (Castor) Seed Oil (And) Silica</i>	28.80%
● Beeswax White SP 422 - Strahl & Pitsch, Inc.: <i>Beeswax</i>	17.00%
● Shea Butter - Cognis Corp: <i>Shea Butter</i>	15.00%
● TNSS60MZSI - Kobo Products: <i>Zinc Oxide (And) Ethylhexyl Methoxycrylene (And) C12-15 Alkyl Benzoate (And) Polyhydroxystearic Acid (And) Triethoxycaprylylsilane</i>	8.70%
● Jeescreeen OMC - Jeen International: <i>Ethylhexyl Methoxycinnamate</i>	7.50%
● Mango Butter - RITA Corp.: <i>Mangifera Indica (Mango) Seed Butter</i>	7.00%
● SunBoost ATB - Kobo Products: <i>Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol</i>	5.00%
● KOBOGUARD® 5400 CCT - Kobo Products: <i>Hydrogenated Polycyclopentadiene (And) Caprylic/Capric Triglyceride</i>	4.00%
● Lipocol® C - Vantage: <i>Cetyl Alcohol</i>	2.00%
● Lameform® TGI - BASF: <i>Polyglycerol-3 Diisostearate</i>	1.00%

### Part 2

● DC 556 - Dow Corning: <i>Phenyl Trimethicone</i>	3.00%
● Vanilla #12967 - Berje Inc.: <i>Fragrance</i>	1.00%

### Manufacturing Procedure

1. Heat Part 1 to 80-85°C.
2. Add Part 2 and mix well. Homogenize.
3. Pour into components at -75°C.

### Description

This is a clear lip balm that glides well on the lips and has high SPF. CO15M5 is used to help boost the viscosity of the formula as well as to provide moisturization and shine. KOBOGUARD® 5400 CCT helps to provide a substantive film. Also featured is TNSS60MZSI, Kobo's Non-Nano Zinc Oxide dispersion, that contains Ethylhexyl Methoxycrylene to maintain the integrity of the UV filter and boost critical wavelength. It also includes SunBoost ATB, which is a proprietary blend of antioxidant, anti-irritant and anti-inflammatory agents that can boost SPF and UVA protection.

### Active Ingredients

Ethylhexyl Methoxycinnamate	7.50%
Zinc Oxide	5.00%

### SPF testing

in vivo on 3 subjects



## KLF-223 Anti-Pollution CC Cream with PT1BM Dispersions



### Part 1

● KF-995 - Shin Etsu Silicones of America, Inc.: <i>Cyclopentasiloxane</i>	12.70%
● PT1BM70U - Kobo Products: <i>Titanium Dioxide (And) Phenyl Trimethicone (And) Disteardimonium Hectorite (And) Isopropyl Titanium Triisostearate (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Silica</i>	12.55%
● TNP50T7-ATB - Kobo Products: <i>C12-15 Alkyl Benzoate (And) Titanium Dioxide (And) Argania Spinosa Kernel Oil (And) Alumina (And) Hydrogen Dimethicone (And) Tocopheryl Acetate (And) Polyhydroxystearic Acid (And) Bisabolol</i>	9.90%
● CXG-1101 - Avantor/Kobo Products: <i>Cyclopentasiloxane (And) Dimethicone/Vinyl Dimethicone Crosspolymer</i>	5.00%
● KF-6040 - Shin Etsu Silicones of America, Inc.: <i>Cyclopentasiloxane (And) PEG/PPG-18/18 Dimethicone</i>	4.90%
● TNSS75MZCM - Kobo Products: <i>Zinc Oxide (And) Ethylhexyl Methoxycrylene (And) C12-15 Alkyl Benzoate (And) Polyhydroxystearic Acid (And) Hydrogen Dimethicone</i>	3.90%
● CPF-3300@10cSt - Avantor/Kobo Products: <i>Phenyl Trimethicone</i>	3.50%
● MSS-500/3N - Kobo Products: <i>Silica</i>	3.00%
● BN30-12 - Kobo Products: <i>Boron Nitride (And) Isopropyl Titanium Triisostearate</i>	2.00%
● PT1BM40Y - Kobo Products: <i>Phenyl Trimethicone (And) Iron Oxides (CI 77492) (And) Silica (And) Disteardimonium Hectorite (And) Isopropyl Titanium Triisostearate (And) 1,2-Hexanediol (And) Caprylyl Glycol</i>	1.25%
● Thixcin® R PC - Elementis Specialties: <i>Trihydroxystearin</i>	0.50%
● PT1BM70R - Kobo Products: <i>Iron Oxides (CI 77491) (And) Phenyl Trimethicone (And) Disteardimonium Hectorite (And) Isopropyl Titanium Triisostearate (And) Silica (And) 1,2-Hexanediol (And) Caprylyl Glycol</i>	0.15%
● Propyl Paraben NF - International Sourcing: <i>Propylparaben</i>	0.10%
● PT1BM60B - Kobo Products: <i>Iron Oxides (CI 77499) (And) Phenyl Trimethicone (And) Disteardimonium Hectorite (And) Isopropyl Titanium Triisostearate (And) Silica (And) 1,2-Hexanediol (And) Caprylyl Glycol</i>	0.05%

### Part 2

● Deionized Water - Water	22.10%
● CES-1104 - Avantor/Kobo Products: <i>Dimethicone (And) Water (And) Glycerin (And) Pentylene Glycol (And) Dimethicone/Vinyl Dimethicone Crosspolymer (And) Amodimethicone (And) Carbomer (And) Phenoxyethanol (And) Sodium Hydroxide (And) Disodium Edta</i>	10.00%
● HEXYLENE GLYCOL - Universal Preserv-A-Chem, Inc.: <i>Hexylene Glycol</i>	4.00%
● Sodium Chloride - Morton Salt: <i>Sodium Chloride</i>	0.65%
● Liposorb® L-20 - Vantage: <i>Polysorbate 20</i>	0.40%
● Methyl Paraben NF - International Sourcing: <i>Methyl Paraben</i>	0.15%
● ALLANTOIN - Jeen International: <i>Allantoin</i>	0.10%
● Edeta® BD - BASF: <i>Disodium EDTA</i>	0.10%
● MSS-500/20N - Kobo Products: <i>Silica</i>	3.00%

### Manufacturing Procedure

1. Prop mix with ITT blade all ingredients of Part 1 until fully uniform.
2. Add Part 2 fully mixed to the dispersed Part 1 until homogeneous.
3. Add Part 3 to batch until fully homogeneous.

### Description

This foundation features PT1BM dispersions for good spreadability and a silky feel when applied. TNP50T7-ATB, TiO<sub>2</sub> sunscreen dispersion with SunBoost ATB, boosts SPF/PFA. TNSS75MZCM, Non-Nano ZnO dispersion, contains Ethylhexyl Methoxycrylene to maintain the integrity of the UV filter and boost CW. BN30-12, surface-treated Boron Nitride gives superior softness and tactility, superb spreadability, excellent adherence, and sheer coverage. MSS-500/20N and MSS-500/3N, silica microspheres offer a ball-bearing effect that results in an elegant silky texture, increased payoff, and enhanced slip to promote better blendability on the skin. CES-1104, encapsulated elastomer gel, breaks upon application and offers an initial refreshing feel followed by a velvety silicone after feel. Phenyl Trimethicone CPF-3300@10cSt gives improved payoff and shine while CXG-1101 imparts a creamy, gel texture.