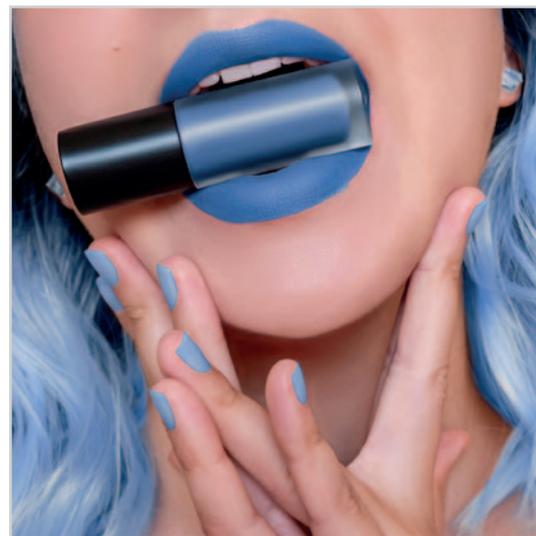


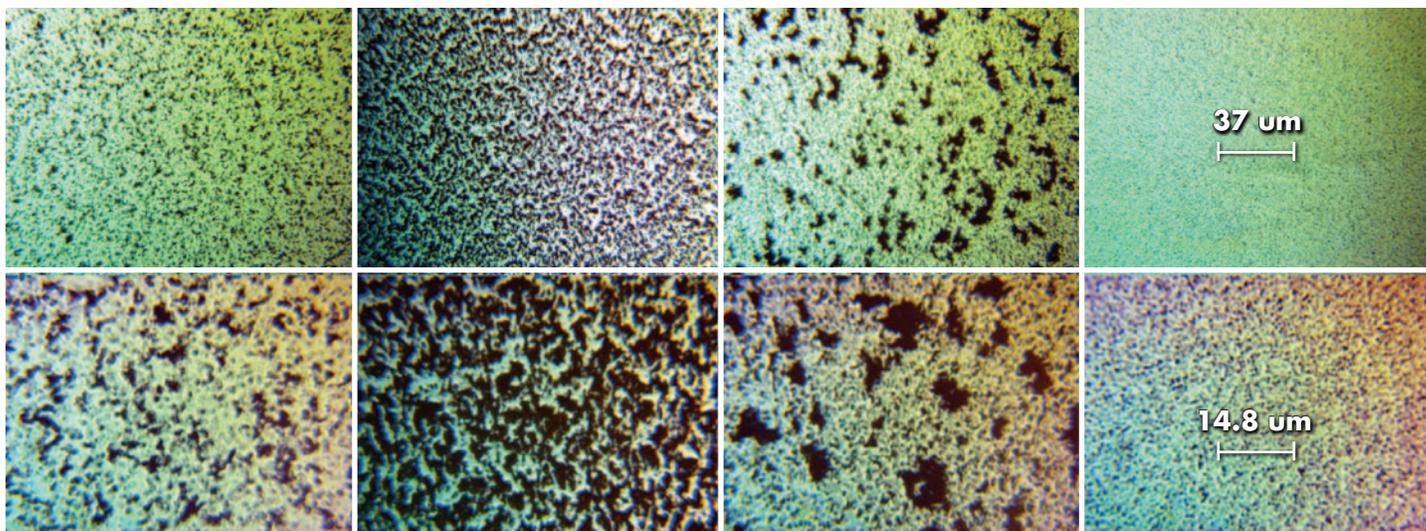
EFFECTIVE PIGMENT DISPERSION IN COLOR COSMETICS HAS NEVER BEEN SO EASY

Color cosmetic chemists are familiar with using Octyldodecanol, Castor Oil and Polyglyceryl-3 Diisostearate for pigment dispersion. Siltech's high molecular weight branched ester Siltech® CE-2000 provides superior pigment dispersion to those products. It offers excellent cushion in lipsticks and is a good emollient for skin care.

- ✦ Ideal for sticks and press powders
- ✦ Oil soluble
- ✦ Unique wetting properties
- ✦ Citrate ester of a guerbet alcohol
- ✦ Cushion, emolliency and dispersion



MICROSCOPIC COMPARISON REVEALS SUPERIOR PERFORMANCE!



Microscopic images of 8% Unipure Red LC381 AS-EM in Octyldodecanol, TGI, Castor Oil and CE-2000 (from left to right)
Magnification: top, 100X; bottom, 2500X

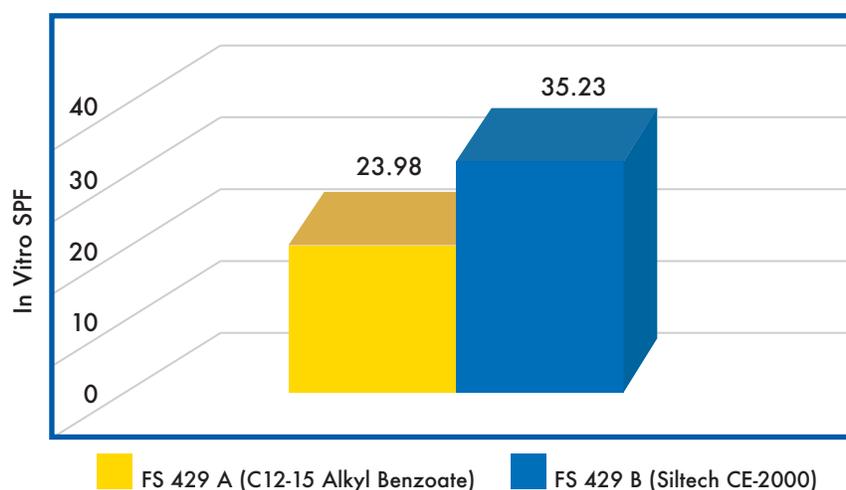
8% loadings of various pigments were dispersed and mixed for 1 hr at 1000 rpm. The pigments dispersed best in conjunction with Siltech CE-2000, displaying the smallest average particle size and narrowest distribution as demonstrated in the microscopic images above.

PRODUCT	CHEMISTRY	INCI	PHYSICAL FORM, VISCOSITY
Siltech® CE-2000	Guerbet Ester	Trioctyldodecyl Citrate	Clear liquid, 200 cps

VERSATILE CITRATE ESTER DISPENSES PIGMENTS, BOOSTS SPF

Siltech® CE-2000 is a non-comodeogenic citrate ester that displays excellent performance as an inorganic UV filter dispersant. It also excels at solubilizing organic UV filters. Lab studies were conducted comparing the efficacy of Siltech® CE-2000 to Alkyl Benzoate, a common sunscreen solvent. The results indicate superior dispersion from Siltech® CE-2000 and a dramatic in vitro SPF boosting effect! A 24% increase in UVA values were also observed upon evaluation in sunscreen FS429.

In Vitro SPF Results



Formulation FS429 Sunscreen

Phase	Material (Supplier)	INCI	A	B
A	D.I. Water	Aqua	49.5	49.5
	Zemea Propanediol (Dupont)	Propanediol	5.0	5.0
	Sodium Chloride	Sodium Chloride	1.0	1.0
	Silube PCH (Siltech)	Polyglyceryl-4 Isostearate (and) Cetyl PEG/PPG-10/1 Dimethicone (and) Hexyl Laurate	6.0	6.0
	Silwax A08 (Siltech)	Caprylyl Methicone	4.0	4.0
	C12-15 Alkyl Benzoate	C12-15 Alkyl Benzoate	8.0	0.0
	Siltech CE-2000 (Siltech)	Trioctyldodecyl Citrate	0.0	8.0
	Tinasorb S (BASF)	Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	1.0	1.0
B	Paracera W80 (Paramelt)	Crystalline Wax	1.5	1.5
	Escalol 517 (Ashland)	Butyl Methoxydibenzoylmethane	1.0	1.0
	DIM 2F650T4 (KOBO)	TiO2, Dimethicone, Polyglyceryl-3Polydimethylsiloxyethyl Dimethicone, Alumina, Hydrogen Dimethicone	12.0	12.0
	ZinClear XP 65 Coco (Antaria)	Zinc Oxide, Coco-caprylate/caprates, Polyglyceryl-3Polyricinoleate, Isoteric Acid	10.0	10.0
C	Zeastat (Inolex)	Caprylhydroxamic Acid (and) Propanediol	1.0	1.0
Total			100.0	100.0