

Micro-TiO₂ Sunscreen Cream No. 513

		Wt.%
A	VEEGUM® Ultra Magnesium Aluminum Silicate	2.0
	Carbomer (Ultrez™ 10 ¹)	0.2
	Water	52.5
B	Polysorbate 20 (Tween® 20 ²)	1.0
	Aqua (and) Titanium Dioxide (and) Alumina (and) Silica (and) Sodium Polyacrylate (and) Propylene Glycol (and) Diazolidinyl Urea (and) Methyl Paraben (and) Propyl Paraben (Tioveil® AQ-G ²)	25.0
	Butylene Glycol	3.0
C	Cetyl Alcohol	0.5
	Isosorbide Laurate	1.0
	Caprylic/Capric Triglyceride (Neobee® M-5 ³)	5.0
	Glyceryl Monostearate SE	3.0
	C12-15 Octanoate (Finester™ EH-25 ⁴)	3.0
	Dimethicone (XIAMETER® PMX-200 Silicone Fluid 350 cs ⁵)	1.0
	Laureth-23 (Brij® L23 ²)	0.5
	Steareth-2 (Brij® S2 ²)	1.1
Steareth-21 (Brij® S721 ²)	1.1	
D	Etidronic Acid	0.1
E	Triethanolamine (to pH 6.0±0.5)	q.s.
	Preservative, Fragrance	q.s.

Procedure: Begin heating the water phase to 80°C. Slowly add the **VEEGUM® Ultra** and carbomer sequentially or as a dry blend to the water agitated at maximum available shear. Mix until fully hydrated. Add the water phase ingredients from Part B, mixing until uniform. Maintain the water phase at 80°C. Blend the oil phase ingredients of Part C and heat to 80°C. Add the oil phase to the water phase with high shear mixing. Mix at reduced speed while cooling to 45°C; then add Part D followed by Part E. Adjust as necessary to pH 6.0±0.5.

RAW MATERIAL SUPPLIERS
¹Lubrizol Advanced Materials Inc., Cleveland, OH

²Croda Inc., Edison, NJ

³Stepan Company, Northfield, IL

⁴Innospec Active Chemicals, Edison, NJ

⁵Dow Corning Corporation, Midland, MI

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