

Wash-Off Resistant Sunscreen Cream No. 515

	Wt. %
A	VEEGUM® Ultra Magnesium Aluminum Silicate 2.0
	Carbomer (Ultrez™ 10 ¹) 0.2
	Water 46.8
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) 12.5
	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 (Cutina® GMS SE ⁴) 3.0
	C12-15 Octanoate (Finester™ EH-25 ⁵) 3.0
	Octylmethoxycinnamate (Parsol® MCX ⁶) 7.0
	Avobenzone (Parsol® 1789 ⁶) 2.0
	Octyl Salicylate (Dermoblock™ OS ⁷) 3.0
	Castor Oil/IPDI Copolymer (Polyderm™ PPI-CO ⁷) 1.0
	Phenyl Dimethicone (DC 556 Fluid ⁸) 3.0
	Dimethicone (XIAMETER® PMX-200 Silicone Fluid 350cs ⁸) 1.0
	Laureth-23 (Brij® L23 ²) 0.5
Steareth-2 (Brij® S2 ²) 2.2	
Steareth-21 (Brij® S721 ²) 2.2	
D	Etidronic Acid 0.1
E	Triethanolamine (to pH 6.0±0.5) q.s.
	Preservative q.s.

Procedure: Begin heating the water 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 remaining water phase ingredients from Part B, mixing until uniform. Maintain the water phase at 80°C. Blend the Part C oil phase ingredients and heat to 85°C. Add the oil phase to the water phase with good agitation; mix until uniform. Cool with mixing; add the Part D and Part E ingredients when the emulsion is <45°C. Adjust as necessary to pH 6.0±0.5.

Note: The combination of TiO₂ and Avobenzone is not approved for use in the USA.

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

²Croda, Inc., Edison, NJ

³Stepan Company, Northfield, IL

⁴BASF Care Creations, Florham Park, NJ

⁵Innospec Active Chemicals, Edison, NJ

⁶Givaudan Corporation, Teaneck, NJ

⁷Alzo International, Inc., Sayreville, NJ

⁸Dow Corning Corporation, Midland, MI

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