Wash-Off Resistant Sunscreen Cream No. 515

**A**
- **VEEGUM® Ultra** Magnesium Aluminum Silicate: 2.0 wt.%
- Carbomer (Utrez™ 101): 0.2 wt.%
- Water: 47.8 wt.%

**B**
- Polysorbate 20 (Tween® 20²): 1.0 wt.%
- Aqua (and) Titanium Dioxide (and) Alumina (and) Silica (and) Sodium Paraben (and) Propyl Paraben (Tioveil® AQ-G²): 12.5 wt.%
- Butylene Glycol: 3.0 wt.%

**C**
- Cetyl Alcohol: 0.5 wt.%
- Isosorbide Laurate: 1.0 wt.%
- Caprylic/Capric Triglyceride (Neobee® M-5³): 5.0 wt.%
- Glycerol Monostearate SE (Cutina® GMS SE⁴): 3.0 wt.%
- C12-15 Octanoate (Finester™ EH-25⁵): 3.0 wt.%
- Octylmethoxycinnamate (Parsol® MCX⁶): 7.0 wt.%
- Avobenzone (Parsol® 1789⁶): 2.0 wt.%
- Octyl Salicylate (Dermoblock™ OS⁶): 3.0 wt.%
- Castor Oil/IPDI Copolymer (Polyderm™ PPI-CO⁷): 1.0 wt.%
- Phenyl Dimethicone (DC 556 Fluid⁸): 3.0 wt.%
- Dimethicone (XIAMETER® PMX-200 Silicone Fluid 350cs⁸): 1.0 wt.%
- Laureth-23 (Brij® L23⁵): 0.5 wt.%
- Steareth-2 (Brij® S2²): 2.2 wt.%
- Steareth-21 (Brij® S721²): 2.2 wt.%

**D**
- Etidronic Acid: 0.1 wt.%

**E**
- Triethanolamine (to pH 6.0±0.5): q.s.
- Preservative: q.s.

**Procedure:** Begin heating the water to 80°C. Slowly add the VEGGUM® 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.

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**RAW MATERIAL SUPPLIERS**

1. Lubrizol Advanced Materials, Inc., Cleveland, OH
2. Croda, Inc., Edison, NJ
3. Stepan Company, Northfield, IL
4. BASF Care Creations, Florham Park, NJ
5. Innospec Active Chemicals, Edison, NJ
6. Givaudan Corporation, Teaneck, NJ
8. Dow Corning Corporation, Midland, MI

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