## Applechem Formulary - Sunscreens



## Treat Yourself Marshmallow Primer SPF 29 (SU-OW 020 v2)

Pretty in pink! This Marshmallow Primer is the perfect product to prep your skin before makeup. (Or use on its own!) When blended in, the light pink color becomes transparent. The soft, velvety texture moisturizes the skin to ensure the face is left refreshed and with an even complexion. And it protects the skin with SPF 29!

**G-Block** products are COSMOS, NPA approved, high active mineral UV filter dispersions which give predictable SPF and broad-spectrum benefits. Their excellent spreadability simplifies formulation development and the manufacturing process.

**SorbiThix L-100** is the best in the class of non-ionic associative thickeners. It brings high perfume, high clarity, and high viscosity with good foaming ability to ANY surfactant systems on the market. However, in this formula, it works as an O/W emulsifier!

**Sensogel Novus** is a very powerful polyol thickener which is used to great effect in this formula. Not only does it boost the viscosity of polylols like glycerin from a soft liquid into a structured gel, but also tamps down on the traditional stickiness associated with these types of ingredients.

## **Specifications**

- SPF: 28.75, 1 subject
- Viscosity @ 1 rpm: 386,800 cP
   Viscosity @10 rpm: 56,840 cP
- 50°C oven: 1 month stable
- Freeze-Thaw: Passed 3 Cycles

PHASE	INCI NAME (TRADE NAME)	USAGE (WT%)
A <sub>1</sub>	Distilled Water	55.4
	Sorbitol	2.00
	Preservative	0.70
	0.1% FD&C Red #40 Aqueous Solution	Q.S
	0.1% FD&C Yellow #5 Aqueous Solution	Q.S
<b>A</b> <sub>2</sub>	Xanthan Gum	0.20
	Carrageenan (Viscarin⊕ PC 209)	0.50
	Glycerin	1.93
<b>B</b> <sub>1</sub>	G-Block DZ 370 CCT	15.00
	G-Block DZ 480 CCT	5.00
	Butyloctyl Salicylate (Hallbrite BHB)	7.00
	Ethyl Macadamiate (Floramac® 10)	6.00
<b>B</b> <sub>2</sub>	Sorbithix L-100	3.20
	Glycerin	1.07
C	Sensogel Novus	2.00
D	Fragrance	Q.S

## **Processing Method**

- 1. Mix Phase A<sub>1</sub> using a propeller blade until all the sorbitol is dissolved.
- 2. Premix Phase add  $A_2$  into a slurry. Slowly add  $A_2$  to  $A_1$  while propeller mixing and simultaneously increasing speed to 1000 rpm. Continue stirring for 10 minutes, then homogenize for 10 minutes (4000 rpm).
- 3. Mix Phase B<sub>1</sub> with dispersion blade for 10 minutes until homogenous.
- 4. Premix Phase B<sub>2</sub> and add to Phase B<sub>1</sub>. Mix with a propeller blade for 5 minutes.
- 5. Switch to a dispersion blade. Slowly add Phase B to Phase A at a high shear (1000-1500 RPM) and mix for 5 minutes.
- 6. Add Phase C to AB and homogenize at 4000-4500 RPM for 5 minutes.
- 7. Add Phase D to ABC and propeller mix until homogenous.
- 8. Adjust pH to 7.0-7.3.

