

## Dream Clean Sunscreen SPF 40+, Broad Spectrum (SU-OW 0018N)

Finally, a PEG-Free oil-in-water sunscreen chock full of clean ingredients that features fantastic sensory, transparency, and best of all, a fully stable, pH-drift free formula that blends in like a dream. This sunscreen utilizes our Sensogel SPE Complex technology, which creates a strong gelling complex between Sensogel polymers and virtually any kind of polyol material.

Any experienced sunscreen formulator is familiar with zinc oxide drifting into the water phase in oil-in-water emulsions, and this formulation uses SPE technology to eliminate this issue resulting in stable, long-term viscosity. No additional xanthan gum or other gummy-like natural thickeners required.

**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.

**Applecare PDS 300** is a dispersion super booster that helps disperse highly-loaded mineral UV filters more evenly across the skin, providing smoother sensory with improved SPF protection.

**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 polyols 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: 42.55 ; FDA protocol, 1 subject
- 🍏 CW: 370 nm, Broad Spectrum
- 🍏 Viscosity @ 10 rpm: 31,800 cP
- 🍏 pH: 7.5
- 🍏 50°C oven: 1 month stable
- 🍏 Freeze-Thaw: Passed 3 Cycles

PHASE	INCI NAME (TRADE NAME)	USAGE (WT%)
A	Distilled Water	42.0
	Erythritol	2.00
	Sorbitol	2.00
	Preservative	0.50
B	G-Block DZ 370 CCT	35.5
	Applecare PDS 300	2.50
	Isohexadecane	12.0
C	Polyglyceryl-10 Mono/Dioleate (Capro1 PGE 860)	0.70
	Glyceryl Behenate (Compritol 888 CG)	0.50
	Sensogel Novus	2.30
D	Fragrance	Q.S.

### Processing Method

1. Mix Phase A with a propeller mixer for 5 minutes at room temperature until erythritol and sorbitol are fully dissolved.
2. Mix and heat Phase B in separate vessel at 500 rpm for 15-20 minutes with a dispersion blade at 70 Celsius.
3. Add Phase C into Phase B until homogenous at 70 Celsius.
4. Then move Phase BC to Silverson homogenizer. Add Phase A into Phase BC when homogenizing at 4000-4500 rpm for 5 minutes without continuous heating.
5. Switch to propeller mixing while cooling down to room temperature. Add back water that may have evaporated during processing.
6. Add Phase D once formulation is at 30C.