

### Water-Resistant Sunscreen Lotion, SPF 25-30

Phase A	Weight %	For 240 g / 8.5 oz
Polyglyceryl Oleate (water-in-oil emulsifier)	6 %	14.4 g / 0.5 oz / 1 Tbsp
Triglyceride (emollient)	4 %	9.6 g / 0.3 oz / 2 tsp
OM-Cinnamate (sunscreen)	7 %	16.8 g / 0.6 oz / 1 Tbsp ½ tsp
Titanium Dioxide in Oil (micronized) (sunscreen)	10 %	24 g / 0.9 oz / 1 ½ Tbsp
Octocrylene (sunscreen)	5 %	12 g / 0.5 oz / 2 ½ tsp
Bees Wax (thickener/stabilizer)	1 %	2.4 g / 0.1 oz / 1 tsp
Vitamin E Acetate (anti-oxidant)	1 %	2.4 g / 0.1 oz / 45 drops
<b>Phase B</b>		
Hot Distilled Water (diluent)	62.3 %	149.5 g / 5.3 oz
EDTA (chelating agent)	0.2 %	0.5 g / 1/4 tsp
Glycerin (humectant)	2 %	4.8 g / 1 tsp
Allantoin (anti-inflammatory agent)	0.2 %	0.5 g / 1/4 tsp
Xanthan Gum (thickener)	0.5 %	1.2 g / 1/2 tsp
Benzyl-Alcohol/SA (preservative blend)	0.8 %	1.9 g / 44 drops

#### Method

Give phase A into a clean, disinfected glass beaker and heat it slowly to 160oF/71oC until all ingredients are melted, stir occasionally. Prepare phase B in a separate glass beaker, start by adding EDTA, stir until dissolved. Then add glycerin and allantoin, stir. Sprinkle the xanthan gum into the water and mix well avoiding the formation of lumps. Add benzyl-alcohol and stir again. Heat phase B to the same temperature as phase A. When both phases have the same temperature pour phase B into phase A, mix well and continuously, until the lotion has formed. Let it cool down by gently stirring. When below 100F/40oC mix it again with high speed.

#### Properties

This sunscreen lotion provides UVA and UVB protection due to the ingredients om-cinnamate and titanium dioxide and octocrylene. The water-in-oil emulsion provides some water resistance and the allantoin acts anti-inflammatory.