

# **Product Formulation**

# **Tinted Sunscreen**

PHC-PF-23-085

Brave the UV damage in the urban setting with this tinted sunscreen. This non-greasy and non-white cast sunscreen is ideal for whole-day application in the city.

Phase	Ingredient	INCI	Function	%
A1	Water	Aqua	Diluent	17.30
A2	EDTA	Tetrasodium EDTA	Chelating Agent	0.10
А3	Carbopol	Carbomer	Thickener	0.30
В1	Phenylbenzimidazole Sulfonic Acid	Phenylbenzimidazole Sulfonic Acid	UV Filter	4.00
B2	Water	Aqua	Diluent	5.00
В3	Triethanolamine	Triethanolamine	pH Modifier	4.50
C1	Glyzer CT500	Modified Cocoglycerides	Emollient	3.00
C2	Glyzer CT100	Caprylic/Capric Triglyceride	Emollient	4.00
С3	Ethylhexyl Salicylate	Ethylhexyl Salicylate	UV Filter	5.00
C4	Dicaprylyl Ether	Dicaprylyl Ether	Emollient	5.00
C5	Dimethicone	Dimethicone	Emollient	20.00
C6	Glyzer CE200	Isoamyl Laurate	Emollient	10.00
<b>C7</b>	Cerin GMS 100SE	Glyceryl Stearate	Emulsifier	7.00
C8	PEG-100 Stearate	PEG-100 Stearate	Emulsifier	5.00
D1	Vitamin E Acetate	Tocopheyl Acetate	Antioxidant	0.10
D2	NatPro 9000	Glyceryl Caprylate (and) Glyceryl Caprate (and) Glyceryl Laurate (and) Caprylhydroxamic Acid	Preservative	1.00
D3	Capryloyl Glycerin/Sebacic Acid Copolymer	Capryloyl Glycerin/Sebacic Acid Copolymer	Film Former	5.00
E1	Titanium Dioxide	Titanium Dioxide	Pigment	3.610
E2	Red Iron Oxide	CI 77491	Pigment	0.0037
E3	Yellow Iron Oxide	CI 77492	Pigment	0.050
E4	Black Iron Oxide	CI 77499	Pigment	0.005
	TOTAL			100.00

# **Formulation Benefits**

- ✓ Tinted, non-white cast formula
- √ SPF30, made for urban environment
- √ Non-greasy skin feel

#### **Key Ingredients**

#### Glyzer CT500

- √ UV filter solubilizer and pigment dispersant
- √ 100% Plant-derived
- √ Substantive skinfeel
- √ ISO 16128: 100% Natural





#### Glyzer CT100

- √ Moisturizing
- √ Easy to apply on skin
- ✓ Derived from natural source
- ✓ ISO 16128: 100%





#### NatPro 9000

- ✓ Natural preservative and antimicrobial active
- ✓ Effective at pH 4.0 7.0
- ✓ Derived from sustainable coconut
- √ ISO 16128: 98%

Raw material verified by ECOCERT GREENLIFE, conform to the COSMOS Standard

All data, formulations and information provided herein have not been comprehensively tested and are not represented as suitable for any particular uses. Statement concerning possible or suggested uses made herein may not be relied upon or be construed as a guaranty of no patent infringement. Users have the sole responsibility and obligation for making preliminary tests to determine the suitability of the sample formulations described herein for any application, to make tests before use in any specific applications, and to confirm the performance, efficacy, safety and regulatory compliance of such products for their particular use.

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#### **Procedure**

1	For Phase A, dissolve carbopol in the water while mixing. Add EDTA. Heat up to 70°C.	
2	For Phase B, dissolve PBSA in water. Slowly add triethanolamine while mixing. Check pH, must be at pH $6-7$ . Heat up to $60^{\circ}$ C.	
3	For Phase C, slowly add ingredients one by one while mixing and heat up to 70°C. All solid waxes must be melted.	
4	At the target temperature, slowly add Phase A to Phase C while mixing at an appropriate speed. Remove from heat.	
5	At 60°C, add Phase B while mixing at an appropriate speed.	
6	At 40°C, add Phase D one by one while mixing.	
7	Slowly add pigments and mix with a high-shear mixer or homogenizer is recommended. The endpoint must be a tinted emulsion.	
8	Add TEA. Mix at an appropriate speed.	

#### **Specification**

Appearance	Opaque emulsion
pH (as is)	7.00
SPF	30

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