

Development Formulation

Perfect Care DD Cream SPF 20

C10164

DD, Daily Defence, Creams, protect against the harmful light wavelengths whilst also offering a uniform tint distribution on the skin. This formulation offers protection against UVA, UVB and HEV damage through the use of **Solaveil™ XT-40W** and cellular damage by IR and free radicals through the use of **Venuceane™**.

Product (INCI Name)	Functionality	% w/w
Phase A		
Crodamol™ GTCC (Caprylic/Capric Triglyceride) ¹	Light Emollient	13.00
Span™ 20 (Sorbitan Laurate) ¹	O/W Co-emulsifier	3.04
Crodamol™ ISIS (Isostearyl Isostearate) ¹	Moisturising Emollient	3.00
Crodamol™ SSA (Decyl Isostearate (and) Isostearyl Isostearate) ¹	Spreading Emollient	3.00
NatraGem™ E145 (Polyglyceryl-4 Laurate/Succinate (and) Aqua) ¹	O/W Emulsifier	2.46
Phase B		
Water (Aqua)	-	To 100
Pricerine™ 9091 (Glycerin) ¹	Humectant	3.00
Veegum Ultra (Magnesium Aluminum Silicate) ³	Thickener	1.00
Keltrol CG SFT (Xanthan Gum) ⁴	Thickener	0.50
Solaveil™ XT-40W (Titanium Dioxide (and) Aqua (and) Polyglyceryl-2 Caprate (and) Sucrose Stearate (and) Simmondsia Chinensis (Jojoba) Seed Oil (and) Stearic Acid (and) Alumina (and) Glyceryl Caprylate (and) Squalane) ¹	Broadspectrum Inorganic UV Absorber	15.00
Phase C		
Red, Black and Yellow Iron Oxides	Pigment blend	1.26
Phase D		
Purac HiPure 90 (Lactic Acid) ⁵	pH Adjuster	qs
Euxyl K712 (Sodium Benzoate (and) Potassium Sorbate) ⁶	Preservative	1.50
Phase E		
Venuceane™ (Thermus Thermophilus Ferment (and) Glycerin) ²	Protects against IR and free radical damage	3.00

Suppliers: **1: Croda** **2: Sederma** 3: Lake Chemicals and Minerals 4: CP Kelco 5: Purac 6: Schülke and Mayr

Method

Disperse the Veegum Ultra and Keltrol CG SFT in Pricerine 9091 and add water with stirring. Once fully hydrated add the Solaveil™ XT-40W with stirring. Combine the Phase A ingredients with stirring. Preblend Phase C with a pestle and mortar and add to Phase A with stirring until homogenous. Homogenise the oil phase for three minutes to disperse the

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pigments fully. Add Phase A to Phase B with stirring until homogenous. Homogenise for a further three minutes. Adjust the pH with lactic acid to below 4.5 whilst stirring and add the preservative Euxyl K172. Add the Venuceane and mx until homogenous

Appearance: Medium Tan Cream		
pH: 5.55	Viscosity: 6,520 cP +/- 10% (Spindle 3, 10 rpm, 1 minute, ambient, Brookfield DV-I+)	
Stability: Three months @ 45°C, 40°C, 25°C, 5°C and -5/40°C		
In vitro SPF: 20	Label SPF: 20	
UVA/UVB ratio: 0.741	UVAPF: 9	Ratio SPF/UVAPF: 2.22

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