COVATION BIO|PDO
zemea®

Formulation sheet

Broad-spectrum, water-resistant, SPF 25+ daily facial moisturizer

ACTS20131

Description

This elegant, light-feeling water-in-oil (W/O) formulation spreads well, covers evenly, and has built-in water resistance, enhanced by the use of two emollients with excellent barrier characteristics. Combining organic and inorganic sunscreen actives, along with placement of the actives in both the aqueous and emollient phases, allows for a high SPF with a relatively low level of active. The formula achieves protection beyond broad spectrum with a critical wavelength of 377.8nm. The success of the formulation is attributed to Zemea® propanediol keeping the water-soluble actives in solution through the evaporation process when the product is applied to the skin.

Phase	Ingredient	INCI name	Supplier	Function	Wt.%
A	Water	Water	—	—	52.40%
	Spectrastat™	Caprylhydroxamic acid (and) caprylyl glycol (and) glycerin	Inolex	Preservative	0.80%
	AquaSul	Sulisobenzone (benzophenone-4)	SandreamImpact	Active	2.00%
B	**Zemea® propanediol**	**Propanediol**	**CovationBio PDO**	**Humectant**	**10.00%**
	Parsol HS	Ensulizole	DSM	Active	3.00%
C	Tris Amino Ultra PC	Tromethamine	Angus	Neutralizer	2.20%
D	Solaveil™ XT-40	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	Croda	Active	3.00%
E	KerrSoft AVG	Acetylated hydrogenated vegetable glyceride	Kerry	Emollient	15.00%
	KerrEmul PGPR	Polyglyceryl-3 polyricinoleate	Kerry	Emulsifier	2.50%
	Solaveil™ AT-300	Caprylic/capric triglyceride (and) titanium dioxide (and) polyhydroxystearic acid (and) stearic acid (and) alumina	Croda	Active	3.00%
	Xperse® 201	Zinc oxide, caprylic/capric triglyceride, polyhydroxystearic acid, triethoxycaprylylsilane	Umicore	Active	3.00%
	CosmoSurf® CE-100	Octododecyl citrate crosspolymer	SurfaTech	Emollient	3.00%
F	CAB-O-SIL® TS-610	Silica dimethyl silylate	Cabot	Thickener	0.10%
	Total				100.00%

Formula provided by: ACT Solutions Corp., Newark, Delaware, USA

Procedure

1. Premix Phase A. Add Phase B to Phase A.
2. Add Phase C until (AB) is clear.
3. Add Phase D to (ABC) while mixing with propeller stirring.
4. Premix Phase E.
5. Add (ABCD) to Phase E very slowly while mixing with propeller stirring.
6. Add Phase F while mixing with propeller stirring.

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For additional information or samples, please contact Customer Service.

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