



Zinc Oxide & Titanium Dioxide Pre-Sun Lotion with Emulsun

Products Highlighted: Emulsun®, L22®, Floramac® 10, Floraesters K-20W® Jojoba, Floramac Macadamia Oil Refined, and Floralipids® Moringa Oil Refined



a Cargill company

This versatile lotion with mineral sunscreen actives provides even coverage and superior protection without drying the skin. Floramac 10 evenly disperses the zinc oxide and titanium dioxide particles for maximum coverage while Floraesters® K-20W Jojoba helps form a water-resistant barrier for lasting protection. This expert blend of Floratech botanical ingredients also gives the added benefits of increased skin hydration, enhanced barrier function, and increased sunscreen retention. *

Phase	Trade/Common Name	INCI Name	Manufacturer	%wt/wt	
A.	Deionized Water	Water	-----	q.s.	
	Dissolvine® GL-47-S	Tetrasodium Glutamate Diacetate	Nouryon	0.10	
	Keltrol® CG-T	Xanthan Gum	CP Kelco	0.30	
	Sunspheres® LCG	Styrene/Acrylates Copolymer	The Dow Chemical Co.	5.00	
B.	UV Cut ZnO-50-W	Zinc Oxide (and) Water (and) Glycerin (and) Sodium Polyacrylate (and) Phenoxyethanol (and) Xanthan Gum (and) Chlorphenesin	Grant Industries	25.00	
C.	Floramac 10	Ethyl Macadamiate	Floritech	8.00	
	Floramac Macadamia Oil Refined	Macadamia Integrifolia Seed Oil	Floritech	0.50	
	Floralipids Moringa Oil Refined	Moringa Oleifera Seed Oil	Floritech	0.50	
	L22	Jojoba Oil/Macadamia Seed Oil Esters (and) Squalene (and) Phytosteryl Macadamiate (and) Phytosterols (and) Tocopherol	Floritech	0.50	
	Pelemol® IN-2	Isononyl Isononanoate	Phoenix Chemical, Inc.	4.00	
	Vitamin E Acetate	Tocopheryl Acetate	Essential Ingredients	0.20	
	Emulsun	Hydrogenated Sunflower Seed Oil Polyglyceryl-3 Esters (and) Hydrogenated Sunflower Seed Oil Glyceryl Esters (and) Cetearyl Alcohol (and) Sodium Stearoyl Lactylate	Floritech	6.50	
	D.	Covascreen UVR CCT	Caprylic/Capric Triglyceride (and) Titanium Dioxide (and) Triethoxycaprylylsilane	Sensient Cosmetic Technologies	6.00
	E.	Glycerine 99.7% USP Kosher	Glycerin	Acme-Hardesty Co.	2.50
		Floraesters K-20W Jojoba	Hydrolyzed Jojoba Esters (and) Water (Aqua)	Floritech	1.00
F.	Preservative ¹	-----	-----	q.s.	
	Citric Acid, USP (30% Solution)	Citric Acid (and) Water	Archer Daniels Midland Co.	q.s.	
Total				100.00	

Mixing Procedure

- Mix the Dissolvine GL-47-S into the deionized water of Phase A using moderate propeller agitation. Add the Keltrol CG-T and heat to 75-80°C. Once the Keltrol CG-T is fully hydrated, add the remaining ingredients of Phase A.
- Add Phase B to Phase A with moderate propeller agitation at 50-60°C.
- Heat Phase AB to 75-80°C.
- Mix Phase AB with homomixing agitation at 75-80°C.
- Once Phase AB is uniform, shift to moderate propeller agitation at 75-80°C.
- In a separate vessel, combine all ingredients of Phase C except Emulsun. Heat to 75-80°C with moderate propeller mixing until uniform.
- When the mixture becomes uniform, add Emulsun and continue mixing until uniform.
- Heat the Covascreen UVR CCT of Phase D to 75-80°C.
- Add Phase D to Phase C with moderate propeller agitation at 75-80°C.
- Add Phase CD to Phase AB with moderate propeller agitation at 75-80°C.
- When the mixture becomes uniform begin cooling to 55-60°C.
- In a separate vessel, mix all ingredients of Phase E at room temperature until uniform. Add Phase E to Phase ABCD at 55-60°C with moderate propeller agitation.
- Add Phase F, in the order listed, to Phase ABCDE at 50-55°C with moderate propeller agitation.
- Stop mixing at 40-45°C.

Typical Properties: pH: 8-9
Viscosity: 100 - 255kcp
Mean SPF (n=3):² 34.89

¹ Preservative: euxyl® PE 9010 [INCI: Phenoxyethanol (and) Ethylhexylglycerin] supplied by Schülke Inc.

² The clinical study of S013 was conducted by Eurofins CRL Inc. on a panel with a total of 3 male and female subjects aged 31-33 for static SPF testing. Testing was conducted according to the US FDA Final Rule; 21 CFR Parts 201 and 310. Final Report available upon request.

Note: The information herein is based on our research and the research of others and is believed to be accurate. No guarantee of accuracy is made and the products are provided without warranty, expressed or implied and upon condition that purchasers shall make their own tests to determine the suitability, stability or safety of such products for their particular purposes. Likewise, statements concerning the possible use of these products are not intended as recommendations to use these products in infringement of any patent or in the treatment, prevention, or cure of any medical condition. INCI/trade names must be verified with each manufacturer. (Cleared for Public Disclosure)