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Waterproof Sunscreen

Products highlighted: Floraesters[®] 30, Floraesters K-20W Jojoba, Florasun[®] 90

Jojoba esters and high oleic sunflower oil form a natural, stable emollient system in this sunscreen lotion (theoretical SPF: 15). The emulsion utilizes the unique polymeric emulsifier technology from Lubrizol Advanced Materials, Inc..

Phase	Trade Name	INCI Name	Supplier	%wt./wt.
A.	Deionized Water	Water		Q.S.
	Keltrol CG-T	Xanthan Gum	CP Kelco	0.20
	Versene Na2	Disodium EDTA	Dow	0.05
	Activera 1-200 Powder	Aloe Barbadensis Gel	Active Organics	0.01
	Preservative	-----		Q.S.
	Pemulen TR-1	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	Lubrizol	0.25
	Carbopol 940	Carbomer	Lubrizol	0.20
B.	Floraesters 30	Jojoba Esters (and) Tocopherol	Floratech	2.00
	Parsol MCX	Ethylhexyl Methoxycinnamate	DSM	6.50
	Uvinul O-18	Ethylhexyl Salicylate	BASF	3.00
	Uvinul M-40	Benzophenone-3	BASF	1.00
	Florasun 90	Helianthus Annuus (Sunflower) Seed Oil (and) Tocopherol	Floratech	4.00
C.	Dow Corning 1401 Fluid	Cyclomethicone (and) Dimethicone	Dow	2.00
D.	Deionized Water	Water		5.00
	Floraesters K-20W Jojoba	Hydrolyzed Jojoba Esters (and) Jojoba Esters (and) Water (Aqua)	Floratech	5.0
			TOTAL:	100.00

Mixing Procedure:

- Heat water of Phase A to 60°C using high-speed propeller agitation. Slowly sift the Keltrol CG-T into the vortex. Once all the Keltrol CG-T is wetted out, mix with rapid propeller stirring for 15-20 minutes at 60°C. Reduce mixing speed and allow to de-aerate. Add remaining ingredients of Phase A while mixing at slow speed.
- Combine the liquids of Phase B and heat with agitation to 50°C with moderate propeller mixing. While mixing with high-speed propeller agitation, slowly add Pemulen then Carbopol to Phase B. Mix 5-10 minutes until mixture is uniform.
- Add Phase B to Phase A at 60°C with moderate propeller agitation. Cool to 40-42°C.
- Add Phase C to batch with moderate propeller and sweep agitation. Mix 10-15 minutes until mixture is uniform.
- Mix and add Phase D to batch with moderate propeller and sweep agitation for 10-15 minutes. Use homomixer to blend the formula.

Note: The information herein is based on our research and the research of others and is believed to be accurate. No guarantee of their accuracy is made and the products discussed are sold without warranty, expressed or implied, and upon condition that purchasers shall make their own tests to determine the suitability 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.