




Formulation

Name	SUNSCREEN LOTION WITH STEPANQUAT® Soleil		
No.	1469		
Description	STEPANQUAT® Soleil acts as a SPF booster in this sunscreen formulation. STEPANQUAT® Soleil also helps the uniform distribution of inorganic UV filters and provides good after-feel.		
Formulation	INGREDIENTS:	% by Weight	Functionality
	=== Phase 1 ===		
	Olivem 1000 (Hallstar) Cetearyl Oliviate, Sorbitan Oliviate	5.00	Emulsifier
	ERCAMULS LF 65 V/FD (ErcaWilmar)**	1.00	Co-emulsifier
	WECOBEE® S	2.00	Emollient
	=== Phase 2 ===		
	NEOBEE® M-20	10.00	Emollient
	ERCAREL AB (ErcaWilmar) C12-15 Alkyl Benzoate	8.00	Emollient
	STEPANQUAT® Soleil	1.50	Sunscreen Agent
	Parsol TX (DSM) Titanium Dioxide, Silica, Dimethicone	10.00	Sunscreen Agent
	Parsol ZX (DSM) Zinc Oxide, Triethoxycaprylsilane	2.00	Sunscreen Agent
	=== Phase 3 ===		
	Xanthan Gum (Merck)	0.15	Rheology Modifier
	Glycerin (Sinopharm)	4.50	Humectant
	Deionized Water	q.s. to 100	Carrier
	=== Phase 4 ===		
	Phenoxyethanol (Sinopharm)	0.30	Preservative
	Triethanolamine (Thermo Scientific), 5% Solution	q.s.	pH Adjuster
	Total	100.00	
Procedure	<ol style="list-style-type: none">1. Add ingredients from Phase 1 to vessel with mixing. Heat to 65°C-70°C (149°F-158°F) and melt.2. In a separate vessel, combine ingredients from Phase 2 and mix gently with spatula.3. Homogenize Phase 2 for 4 minutes at 5000 rpm.4. Add Phase 2 to Phase 1 using overhead mixing (at 500 rpm for 2 minutes) while heating the batch to 65°C-70°C (149°F-158°F).5. In a separate vessel, prepare Phase 3 by adding Deionized Water and Glycerin together with overhead mixing at 500 rpm.6. Adjust pH of Phase 3 to greater than 7.0 using the Triethanolamine, 5% solution, before adding Xanthan Gum.7. Once the pH is adjusted, add Xanthan Gum with overhead mixing at 500 rpm. Heat to 65°C-70°C (149°F-158°F) with mixing.8. Add Phase 3 into the batch with overhead mixing at 500 rpm for 2 minutes.9. Homogenize the batch at 5000 rpm while heating it in a water bath at 70°C (158°F) for 2 minutes.10. Transfer the batch to overhead mixing at 300 rpm - 500 rpm and begin to cool to 40°C (104°F).11. After cooling to 40°C (104°F), add Phenoxyethanol with overhead mixing and stir for 1 minute.12. Measure pH of batch. Adjust pH to 7.2 - 7.3 with Triethanolamine, 5% Solution.		

	**Note: The INCI name for ERCAMULS LF 65 V/FD, supplied by ErcaWilmar, is Glyceryl Stearate and PEG-100 Stearate.	
Physical Properties	Appearance, as is SPF pH, as is Viscosity at 25°C, cps	Opaque lotion 21.8 7.0 - 7.5 10,000 - 20,000
Storage/ Stability	3 months at 25°C 3 months at 5°C 3 months at 45°C	Stable Stable Stable
Instructions for Use	Apply as a normal lotion to the skin	
External Comment	Marketing Notes: The addition of STEPANQUAT® Soleil to the formulation increased the SPF from 12.4 (blank) to SPF 21.8. STEPANQUAT® Helia can be substituted for STEPANQUAT® Soleil at the same percent by weight for almost similar performance with SPF 25-30.	
Registered Trademarks of Stepan Company	WECOBEE® NEOBEE® STEPANQUAT®	
For Additional Assistance	For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or +33 476 505 100 (Europe). For ordering assistance, call our Account Service Department at 1-800-457-7673. The information contained herein is based on the manufacturer's own study and the works of others and is subject to change without prior notice. The information is not intended to be all-inclusive, including as to the manner and conditions of use, handling, storage or disposal or other factors that may involve additional legal, environmental, safety or performance considerations. Nothing contained herein grants or extends a license, express or implied, in connection with any patents issued or pending of the manufacturer or others, or shall be construed as a recommendation to infringe any patents. STEPAN COMPANY MAKES NO PRODUCT WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR USE, EXPRESS OR IMPLIED, AND NO OTHER WARRANTY OR GUARANTY, EXPRESS OR IMPLIED, IS MADE, INCLUDING AS TO INFORMATION REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY, ACCURACY, COMPLETENESS, OR ADEQUACY. Stepan Company (and its employees, subsidiaries and affiliates) shall not be liable (regardless of fault) to the vendee, its employees, or any other party for any direct, indirect, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy, furnishing, use, or reliance upon information provided herein. The vendee assumes and releases Stepan Company (and its employees, subsidiaries and affiliates) from all liability, whether in tort, contract or otherwise to the fullest extent possible under the relevant law.	
<div><div>Stepan</div><div></div></div> <div>Stepan Company Northbrook, Illinois 60062 Telephone (847) 446-7500</div>		