High Performance Sunscreen SPF 45

With PARSOL® SLX, PARSOL® 1789, PARSOL® 340 and PARSOL® HS high SPF to sun filter usage.

Phase	Ingredients	INCI Name	% w / w	Supplier
A	**PARSOL® 1789**	Butyl Methoxydibenzoylmethane (Avobenzone; USAN)	4.00	100288
	PARSOL® SLX	Polysilicone-15	3.00	100288
	PARSOL® 340	Octocrylene (Octocrilene; USAN)	3.60	100288
	AMPHISOL® K	Potassium Cetyl Phosphate	3.00	100288
	Estol 3650	Glyceryl Myristate	4.00	100083
	Lanette 16	Cetyl Alcohol	2.00	100396
	Butylated Hydroxytoluene	BHT	0.05	100230
	Dow Corning 200/100 cs	Dimethicone	2.00	100404
	Phenonip	Phenoxyethanol & Methylparaben & Ethylparaben & Butylparaben & Propylparaben & Isobutylparaben	0.80	100394
	Paraffin Oil	Mineral Oil	3.60	100155
	DUB DIS	Diisopropyl Sebacate	12.00	100327
	Cetiol B	Dibutyl Adipate	10.00	100396
	Antaron V-220	VP/Eicosene Copolymer	2.00	100184
B	Glycerin	Glycerin	3.00	100396
	Keltrol	Xanthan Gum	0.30	100400
	Water dem.	Aqua	28.55	
	Dequest 2046	Pentasodium Ethylenediamine Tetramethylene Phosphonate	0.50	100239
C	Triethanolamine (T.E.A.)	Triethanolamine	0.30	100134
D	**PARSOL® HS**	Phenylbenzimidazole Sulfonic Acid (Ensulizole; USAN)	4.00	100288
	Water dem.	Aqua	10.00	
	Triethanolamine (T.E.A.)	Triethanolamine	3.30	100134

Procedure

1 Heat part A to 85°C while stirring.

2 Heat part B to 80°C and add to part A while stirring and homogenizing the emulsion.

3 Cool down the emulsion to 55°C and add part C.
Be sure that the pH of the emulsion is 7.0. If traces remain, add small quantities of the used neutralizing base until the pH-value is at least 7.0.

4 Be sure that the pH of PARSOL® HS solution is 7.0. If traces remain, add small quantities of the used neutralizing base until the particles are dissolved.
Now add part D and homogenize intensively again.
Then cool down to ambient temperature while mixing the emulsion.
It is generally recommended to use vacuum while producing the emulsion.

Technical Data

pH: 7.94 **Viscosity:** 16300 cps (Brookfield, RV4, 10 rpm)

SPF in vivo*: 45 **In vitro UVAPF (Colipa 2007):** 14
UVAPF/SPF (30 labeled); ≥0.33: 0.47
Critical Wavelength: 377 nm

* Three independent in vivo tests at two different institutes according to the International Method 2006.

Supplier

100288	DSM Nutritional Products	100239	Solutia Inc.
100083	Croda GmbH	100327	Stearinerie Dubois Fils
100134	Fluka Chemie AG	100394	CLARIANT GMBH
100155	Hänseler AG	100396	Cognis Deutschland GmbH&Co.KG
100184	International Specialty Produc	100400	CP Kelco
100230	Merck KGaA	100404	Dow Corning Corporation

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