

Formulation Example

US-S88-13-74 Mineral Sunscreen Broad Spectrum, in vivo SPF 39

Ingredients	Art. No.	INCI EU (INCI US, if different)	[%]
A			
Eusolex® T-2000	1.05373 (1)	TITANIUM DIOXIDE (NANO) (TITANIUM DIOXIDE), ALUMINA, SIMETHICONE	4.00
RonaCare® Ectoin	1.30200 (1)	ECTOIN	0.50
Jeechem Sodium Stearate C1	(2)	SODIUM STEARATE	0.50
Glycerol, anhydrous		GLYCERIN	3.00
Water, demineralized		AQUA (WATER)	ad 100
B			
Eusolex® T-2000	1.05373 (1)	TITANIUM DIOXIDE (NANO) (TITANIUM DIOXIDE), ALUMINA, SIMETHICONE	4.00
Eusolex® T-EASY	1.05338 (1)	TITANIUM DIOXIDE (NANO) (TITANIUM DIOXIDE), SILICA, CETYL PHOSPHATE	6.00
RonaCare® AP	1.30163 (1)	BIS-ETHYLHEXYL HYDROXYDIMETHOXY BENZYL MALONATE	1.00
Oxynex® ST Liquid	1.30217 (1)	DIETHYLHEXYL SYRINGYLIDENEMALONATE, CAPRYLIC/CAPRIC TRIGLYCERIDE	0.50
Span 120-LQ-(MH)	(3)	SORBITAN ISOSTEARATE	0.75
Protachem TN	(4)	C12-15 ALKYL BENZOATE	6.50
White Beeswax Pastilles NF SP-422P	(5)	CERA ALBA (BEESWAX)	1.00
Miglyol 840 Gel B	(6)	PROPYLENE CARBONATE, STEARALKONIUM HECTORITE, PROPYLENE GLYCOL DICAPRYLATE/DICAPRATE	7.00
Miglyol 812	(6)	CAPRYLIC/CAPRIC TRIGLYCERIDE	6.00
Softisan 649	(6)	BIS-DIGLYCERYL POLYACYLADIPATE-2	5.00
Arlamol HD	(4)	ISOHEXADECANE	5.00
C			
KSG-15	(7)	CYCLOPENTASILOXANE, DIMETHICONE/VINYL DIMETHICONE CROSSPOLYMER	2.00
Preservatives		PRESERVATIVES	q.s.

Procedure:

Combine the ingredients of phase A and phase B separately, and heat to 75-80°C. Add phase A into phase B while stirring, and homogenize until uniform. Cool to 40°C. Add phase C ingredients, one ingredient at a time to phase B/A while stirring. Homogenize and cool down to RT.

Notes:

Appearance: An off-white cream (W/O)

Brookfield Viscometer RVT, Helipath Spindle D, 10 rpm = 120,000 cps

In vivo SPF (5 subjects) = 39.1

In-vitro critical wavelength (FDA 2011) : 371.47 nm = 'Broad Spectrum'

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Suppliers:

(1) Susonity Commercial GmbH, Germany and/or its affiliates

(3) Croda

(5) Strahl & Pitsch

(7) Shin Etsu Silicones

(2) Jeen International Corporation

(4) Protameen

(6) Sasol

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