

FORMULATION example

US-S84-13-69-4 Sunscreen Lotion W/O

Broad Spectrum, In Vivo SPF 50

Ingredients

	INCI (US)	[%]
A		
Eusolex® T-AVO	(1) TITANIUM DIOXIDE (AND) SILICA	6.00
Eusolex® T-PRO	(1) TITANIUM DIOXIDE (AND) ALUMINA (AND) MANGANESE DIOXIDE	10.00
RonaCare® Ectoin	(1) ECTOIN	0.50
RonaCare® Disodium EDTA	(1) DISODIUM EDTA	0.05
Jeechem Sodium Stearate C1	(2) SODIUM STEARATE	0.50
Glycerol, anhydrous	(1) GLYCERIN	8.00
Water, demineralized	WATER	ad 100
B		
RonaCare® AP	(1) BIS-ETHYLHEXYL HYDROXYDIMETHOXY BENZYL MALONATE	1.00
Oxynex® ST Liquid	(1) DIETHYLHEXYL SYRINGYLIDENE MALONATE (AND) CAPRYLIC/CAPRIC TRIGLYCERIDE	0.50
Span 120-LQ-(MH)	(3) SORBITAN ISOSTEARATE	0.75
Protachem TN	(4) C12-15 ALKYL BENZOATE	6.50
Miglyol 840 Gel B	(5) PROPYLENE CARBONATE (AND) STEARALKONIUM HECTORITE (AND) PROPYLENE GLYCOL DICAPRYLATE/DICAPRATE	7.00
Miglyol 812	(5) CAPRYLIC/CAPRIC GLYCERIDES	6.00
Softisan 649	(5) BIS-DIGLYCERYL POLYACYLADIPATE-2	5.00
Arlamol HD	(3) ISOHEXADECANE	5.00
White Beeswax Pastilles	(6) BEESWAX	1.00
C		
Preservatives	PRESERVATIVES	q.s.
RonaFlair® LDP White	(1) SODIUM POTASSIUM ALUMINIUM SILICATE (AND) TITANIUM DIOXIDE (AND) SILICA	3.00

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 A+B while stirring. Cool down to RT.

Notes:

Appearance: a beige lotion

Brookfield Viscometer RVT, Helipath Spindle D, 10 rpm = 43,000 cps

In Vivo SPF, FDA 2011 Method (2 subjects) : 50

In vitro critical wavelength, FDA 2011 method : 374.60 (Broad Spectrum)

Suppliers:

(1) Merck KGaA, Darmstadt, Germany / EMD Performance Materials

(2) Jeen International Corporation

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(3) Croda
(5) Sasol Germany GmbH

(4) Protameen
(6) Strahl & Pitsch

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