

Formulation Example

MDA-S-149-11 SK 05

VitaShield

Moisturizing & Antioxidative Sunscreen, *in vivo* SPF 38, UVA

Ingredients	Art. No.	INCI EU	[%]
A1			
Eusolex® OCR	1.05377 (1)	OCTOCRYLENE	4.00
Eusolex® OS	1.06949 (1)	ETHYLHEXYL SALICYLATE	4.00
RonaCare® AP	1.30163 (1)	BIS-ETHYLHEXYL HYDROXYDIMETHOXY BENZYL MALONATE	1.00
Eusolex® BEMT	1.32992 (1)	BIS-ETHYLHEXYLOXYPHENOL METHOXYPHENYL TRIAZINE	1.80
DHMB		DIETHYLAMINO HYDROXYBENZOYL HEXYL BENZOATE	5.00
Eusolex® EHT	1.32994 (1)	ETHYLHEXYL TRIAZONE	1.50
DBT		DIETHYLHEXYL BUTAMIDO TRIAZONE	0.80
Amphisol® K	(2)	POTASSIUM CETYL PHOSPHATE	1.80
Tegin® M Pellets	(3)	GLYCERYL STEARATE	1.20
Lanette® O	(4)	CETEARYL ALCOHOL	1.40
Cetiol® CC	(4)	DICAPRYLYL CARBONATE	3.00
Tegosoft® TN	(3)	C12-15 ALKYL BENZOATE	2.00
DUB Zenoat®	(5)	PROPANEDIOL DICAPRYLATE	4.00
A2			
Eusolex® T-PURE	1.05947 (1)	TITANIUM DIOXIDE (NANO), ALUMINA, SILICA	1.50
B			
Eusolex® 232 USC	1.32429 (1)	PHENYLBENZIMIDAZOLE SULFONIC ACID	1.20
RonaCare® Ectoin	1.30200 (1)	ECTOIN	0.50
Glycerol 85%	1.04091 (1)	GLYCERIN, AQUA	5.00
Tris(hydroxymethyl)aminomethane (Trometamol) EMPROVE®	1.08386 (1)	TROMETHAMINE	0.50
Complexing agent			q.s.
Water, demineralized		AQUA	add 100
C			
Carbopol® Ultrez 21	(6)	ACRYLATES/C10-30 ALKYL ACRYLATE CROSSPOLYMER	0.20
Tegosoft® TN	(3)	C12-15 ALKYL BENZOATE	0.40
D			
Preservatives			q.s.
Fragrance		PARFUM	q.s.
E			
Neutralizing agent			q.s.

Procedure:

Disolve Tromethamine in the water of phase B; add Eusolex® 232 and stir until a clear solution is obtained. Then add the remaining ingredients of phase B. Heat up phase A1 and B to 65-70 °C. Disperse phase A2 into phase A1. Add phase A into phase B while stirring. Homogenize. Add phase C at 50-60 °C while stirring. Homogenize. At 45 °C add phase D. Adjust pH value with phase E to 6.8-7.2.

Notes:

Appearance: yellowish cream (O/W)

pH (24 °C): 7.1

Viscosity: 30,000 mPa.s (Brookfield DV-II+, Helipath, spindle B, 10 rpm) at 24 °C

Stability: 3 months at RT, 5 °C, FTC (-5 °C to +40 °C), 40 °C and 1 week at 50 °C

Suppliers:

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

(3) Evonik Nutrition & Care GmbH

(5) Stearinerie Dubois

(2) DSM Nutritional Products GmbH

(4) BASF AG

(6) Gattefossé (Deutschland) GmbH

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