APRINNOVA

A Joint Venture of Amyris & NIKKOL GROUP

CleanScreen™ Z60SF Technical Data Sheet

Product Description

CleanScreen Z60SF is a non-nano zinc oxide silicone-free dispersion developed to be the solution to your natural facial care and color cosmetic SPF formulation challenges. A low viscosity, high solid mineral sunscreen dispersion supplied in a plant derived carrier, Neossance™ Squalane. CleanScreen Z60SF exhibits broad UVA and UVB protection, is easy to formulate with and non-whitening which enables a naturally derived and sustainable sun filter system that can achieve EWG green status.

Technical Information

INCI: Zinc Oxide (and) Squalane (and) Lecithin (and) Silica

Properties	CleanScreen Z60SF
Mineral Filter	ZnO
Approx. UV Filter Content (% w/w)	60.0
Density (g/cc)	1.67
Primary Particle Size (nm) by SLS	200
Nano Status	Non-nano
Coating	Silica
Squalane Content (% w/w)	37.5

Features & Benefits

Feature	Benefit
Extremely efficient particle coating and dispersant system	High levels of protection from UVB and UVA radiation without whitening
Silica particle coating and lecithin dispersant	Enables silicone- and petrochemical-free claims
Approved for use in US, EU, China, Japan	Allows for global formulation
Non-nano	Safe. No need to disclose nano on label
ISO 16128 Natural Origin Index 1.0 (62% Mineral, 38% Naturally derived)	Ideal for natural positioned products
Pourable liquid	Easy to formulate, easy to use, manufacturing cost savings

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Formulations

SPF 40 Face Cream (without Boosters)

Phase	Trade Name	INCI	%	Supplier
A	-	Water	43.95	-
	-	Sodium Chloride	1.00	-
	-	Allantoin	0.45	-
	-	Propanediol	3.00	-
	Sensiva® PA 40	Phenylpropanol (and) Propanediol (and) Carprylyl Glycol (and) Tocopherol	1.00	Schulke
B	Elefac™ I-205	Octyldodecyl Neopentanoate	7.50	Alzo International
		Simmondsia Chinensis (Jojoba) Seed Oil	7.50	
	CleanScreen™ Z60SF	Zinc Oxide (and) Squalane (and) Lecithin (and) Silica	25.00	Apinnova
	Dehymuls® PGPH	Polyglyceryl-2 Dipolyhydeoxystearate	0.60	BASF
C	LexFilm™ Sun	Polyester-7 (and) Neopentyl Glycol Diheptanoate	5.00	Inolex
	-	Bisabolol	0.50	-
	Akoline PGPR™	Polyglyceryl-3 Polyricinoleate (and) Alpha Tocopherol (and) Citric Acid (and) Propylene Glycol	2.00	AAK
	HallStar® GMS Pure	Glyceryl Distearate (and) Glyceryl Monostearate (and) Glycerin	2.00	Hallstar
	Compritol® 888	Glyceryl Behenate	0.50	Gattefossé

SPF Specifications:

- **SPF 40.25 (in-vivo, FDA, 3 subjects)**

Procedure:

1. Combine Phase A and heat to 75-80°C with mixing.
2. Combine Phase B and homogenize for 1-2 minutes.
3. Combine Phase B and Phase C. Heat Phase B/C to 75-80°C with mixing.
4. Homogenize Phase B/C for 30 seconds.
5. Slowly add Phase A to Phase B/C.
6. Continue to homogenize for 2 minutes.
7. Mix and allow cooling to room temperature.

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SPF 50+ Face Cream (with Boosters)

Phase	Trade Name	INCI Name	%	Supplier
A	-	Water	43.95	-
	-	Sodium Chloride	1.00	-
	-	Allantoin	0.45	-
	-	Propanediol	3.00	-
	Sensiva® PA 40	Phenylpropanol (and) Propanediol (and) Carprylyl Glycol (and) Tocopherol	1.00	Schulke
B	Elefac™ I-205	Octyldodecyl Neopentanoate	4.00	Alzo International
		Simmondsia Chinensis (Jojoba) Seed Oil	4.00	
	CleanScreen™ Z60SF	Zinc Oxide (and) Squalane (and) Lecithin (and) Silica	25.00	Aprinnova
	Dehymuls® PGPH	Polyglyceryl-2 Dipolyhydeoxystearate	0.60	BASF
C	LexFilm™ Sun	Polyester-7 (and) Neopentyl Glycol Diheptanoate	5.00	Inolex
	Hallbrite® BHB	Butyloctyl Salicylate	5.00	Hallstar
	Dermol TDSA	Tridecyl Salicylate	2.00	Alzo International
	-	Bisabolol	0.50	-
	Akoline PGPR™	Polyglyceryl-3 Polyricinoleate (and) Alpha Tocopherol (and) Citric Acid (and) Propylene Glycol	2.00	AAK
	HallStar® GMS Pure	Glyceryl Distearate (and) Glyceryl Monostearate (and) Glycerin	2.00	Hallstar
	Compritol® 888	Glyceryl Behenate	0.50	Gattefossé

SPF Specifications:

- **SPF 50+ (in-vivo, FDA, 3 subjects)**

Procedure:

1. Combine Phase A and heat to 75-80°C with mixing.
2. Combine Phase B and homogenize for 1-2 minutes.
3. Combine Phase B and Phase C. Heat Phase B/C to 75-80°C with mixing.
4. Homogenize Phase B/C for 30 seconds.
5. Slowly add Phase A to Phase B/C.
6. Continue to homogenize for 2 minutes.
7. Mix and allow cooling to room temperature.

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