

Warming Lotion - Phase Inversion Technology

Formula PALN01PIT

This formulation allows the incorporation of **HotFlux®** into the oil phase at a lower temperature maximising the warming effect. The lotion offers good spreadability and skin feel, due to the inclusion of **Corum 5047**.

	Trade Name	INCI Name	Function	%W/W	Supplier
1	Purified Water (1)	Aqua	Solvent	23.7	
2	Versene™ NA2	Disodium EDTA	Chelating Agent	0.05	Dow chemical
3	NOVAXAN 80T	Xanthan Gum	Rheology Modifier	0.1	A.D.M via ProTec Ingredia
4	Floviva Organic Glycerin	Glycerin	Humectant	3	ProTec Botanica
5	Purified Water (2)	Aqua	Solvent	23.7	
6	Ultrez™ 20	C10-30 alkyl acrylate crosspolymer	Thickener	0.1	Noveon
7	Tego Acid S 100 P	PEG 100 Stearate	Emulsifier	0.3	Evonik
8	GMS 90 Veg	Glyceryl Stearate	Emulsifier	1.2	BASF
9	Lanette® 16	Cetyl Alcohol	Co-Emulsifier	1.2	BASF
10	Procol CS-20	Ceteareth-20	Emulsifier	0.3	Protameen
11	ESSACHEM™ O	Octyldodecyl Olivatate	Light ester	4.2	ESSACHEM™ via ProTec Ingredia
12	CORUM 5047	Octyldodecyl Stearoyl Stearate	Ester with 'cushion feel'	3	Corum Inc via ProTec Ingredia
13	Sophim MC30	Hydrogenated Polyisobutene	Emollient	6	Sophim
14	Basildon Silicone Fluid 100 CST	Dimethicone	Feel Modifier	2	KCC
15	Sodium Hydroxide (18% Solution)	Sodium Hydroxide	Neutraliser	0.05	
16	Purified Water (3)	Aqua	Solvent	30	
17	HotFlux®	Vanillyl Butyl Ether	Warming agent	0.5	Corum Inc via ProTec Ingredia
18	Neolone PE	Methylisothiazolinone, Phenoxyethanol	Preservative	0.6	Dow Chemical

ProTec Ingredia Ltd

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Website: www.protecingredia.com

Registered in London No. 07517784 VAT No. GB 100 2120 14

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Method of Manufacture

Into premix vessel(1) add

Purified Water (1)	Start the mixer on a fast speed.
Disodium EDTA	Mix until dispersed.
Xanthan Gum	Sprinkle Xanthan Gum into the Vortex of the mixer, mix until dissolved.
Glycerin	Mix until dissolved.

Into premix vessel(2) add:

Purified Water (2)	
C10-30 alkyl acrylate crosspolymer	Slowly sprinkle over the surface and leave to 'wet out'.

Into the main vessel add:

PEG 100 Stearate
Glyceryl Stearate
Cetyl Alcohol
Ceteareth-20
Octyldodecyl Oliviate

CORUM 5047

Hydrogenated Polyisobutene
Dimethicone

Commence heating the premix vessel to 80-85C.

Add premix vessel(2) into premix vessel(1) ensuring the Ultrez 20 has fully wet out first. Mix until uniform Heat the main vessel and premix vessel(1) to 80-85C.

When both vessels are at 80C-85C slowly drip premix vessel(1) into the main vessel over 30 minutes.

Commence cooling to 23C.

Into the main vessel add:

Sodium Hydroxide	Mix until dispersed.
Purified Water (3)	Mix until dispersed.

The bulk will become thick and difficult to mix as gets closer to the Phase Inversion Temperature (PIT).

When the bulk is 60C into the main vessel add:

HotFlux®	Mix until dispersed.
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At around 56C the product will change from a Water in Oil emulsion to an Oil in Water emulsion.

When the bulk is 40C or below to the main vessel add:

Neolone PE	Mix until dispersed.
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Continue to cool to 23C.

Product Specifications

pH	5.50-6.10
Viscosity	25-35,000 cps (LVT Spindle 4, Speed 10, 30 seconds)
Colour	White
Appearance	Mobile liquid emulsion

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