

# ALGUARD™

## Formulation Guidance





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# Preface

This guide is presented as a formulation aid for Frutarom's ALGUARD™.

Most formulations combines different active extracts from Frutarom's portfolio to allow tuning of extract selection for the intended application.

All formulas were tested for stability and preservative efficacy.

Alguard is relatively colorless hydrogel. The addition of TiO<sub>2</sub> to part of the formulations is intended to mask the color of some botanical extracts. Color masking is unnecessary for ALGUARD™ formulations.

We hope you will find this guidance helpful and welcome any inquiries regarding new formula development. For technical support please refer to your local Frutarom representative or contact us at [Cosmetics@frutarom.com](mailto:Cosmetics@frutarom.com)

## **Legal disclaimer:**

Adjustment of raw materials and manufacture process to local conditions might be necessary. This formulation has been designed with utmost care, but no warrantee can be given for its use. The information is offered for your consideration and is to be used with appropriate professional judgment.



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# Technical Considerations

Physical Form	Clear Hydrogel
Color	Yellow - Beige
Odor	Weak Marine
Viscosity	≥ 3400 cpi
pH	6.0-8.0
pH stability	2.0-9.0
Temperature stability	Up to 160°C
Solubility	Completely water and alcohol soluble





# Suggested Formulations

Daily Anti-age Cream	
Anti-age Flash Serum	
Anti-Ageing Face Cream	
Mature Skin Face Cream	
Sensitive Skin Face Lotion	
Male Oily Skin Lotion	
After Sun Care Cream	
Acne Prone Skin Care Gel	
Lifting Face Serum	
Baby Shampoo	





# Daily Anti-age Cream

PHASE	TRADE NAME	INCI NAME	W/W %	
A	BEAUTYDERM HP (Impag)	Glyceryl Stearate (and) Cetearyl Alcohol (and) Stearic Acid (and) Sodium Lauroyl Glutamate	6.00	
		Prunus Armeniaca Kernel Oil	2.00	
		Theobroma Cacao Seed Butter	3.00	
		Behenyl Alcohol	2.00	
		Dub Zenoat (Stéarine Dubois)	Propanediol Dicaprylate	3.00
		VegeLight 1214 LC (Biosynthis)	Coconut Alkanes (and) Coco-Caprylate / Caprate	3.00
		Glyceryl Hydroxystearate	0.70	
B	Deionised Water	Aqua	71.44	
	Dermofeel PA3 (Lucas Meyer)	Sodium Phytate (and) Water (and) Alcohol	0.10	
		Glycerin	5.00	
		Xanthan Gum	0.20	
	Satiagel VPC508 (Cargill)	Chondrus Crispus	0.25	
C	Geoguard 221 (Lonza)	Benzyl Alcohol (and) Dehydroacetic Acid (and) Water	0.80	
		Tocopherol (and) Helianthus Annuus Seed Oil	0.20	
	Parfum Olyvia Fleurs LA0002/FML00026 (Mademoiselle Parfumette)	Fragrance	0.25	
	<b>ALGUARD PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>2.00</b>	
D	Lactic Acid, 50% sol.aq. qs 6,0 < pH < 6,2	Lactic Acid	0.06	

## Manufacturing Procedure:

### Step I

1) Prepare phase A at 75 ° C.

### Step II

1) Prepare phase B: mix water and glycerin Dermofeel A3 and heat.

2) At 50°C add Xanthan gum and Satiagel VPC 508 and continue heating up to 75°C.

3) At 75°C add phase A into phase B with turbine agitation for 20 seconds then start cooling.

### Step III

1) At 30°C add one by one the ingredients of phase C.

2) Measure pH and adjust if necessary to 6.0 < pH < 6.2.

Viscosity (at 24 h): 2500 cP (Viscostar Plus, R5, speed 60).

- Based on a self emulsifying base
- Ecocert validated
- Alguard as biological anti-age active



# Anti-age Flash Serum

PHASE	TRADE NAME	INCI NAME	W/W %
A	BEAUTYDERM K10 (Impag)	Cetearyl Glucoside (and) Sorbitan Olivatate (and) Cetearyl Alcohol	6.00
	Floraesters 20 (Floratech)	Jjoba Esters (and) Tocopherol	2.00
	Dub Zenoat (Stéarine Dubois)	Propanediol Dicaprylate	5.00
		Prunus Amygdalus Dulcis Seed Oil	3.00
	Cetiol CC (Cognis)	Dicaprylyl Carbonate (and) Tocopherol	2.00
B	Deionised Water	Aqua	69.48
		Glycerin	3.00
	Dermofeel PA3 (Lucas Meyer)	Sodium Phytate (and) Water (and) Alcohol	0.10
	Solagum AX (Seppic)	Acacia Catechu Gum (and) Xanthan Gum	0.70
C		Propanediol	3.00
	Aminat G (Seppic)	Glycerin (and) Ethyl Lauroyl Arginate HCl	0.50
D	<b>ALGUARD PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>5.00</b>
E	Parfum Olyvia Fleurs LA0002/FML00026 (Mademoiselle Parfumette)	Fragrance	0.22

## Manufacturing Procedure:

### Step I

1) Prepare phase A at 75°C.

### Step II

1) Prepare phase B at 75°C.

### Step III

1) Prepare phase C at room temperature.

### Step IV

- 1) Add phase A into phase B with stirring turbine 15s at 9500 rpm
- 2) Start cooling at 35°C
- 3) Add phase C to A + B and Phase D at 30°C, add phase E
- 4) Measure pH and adjust if necessary to 5.5 <pH <6.0.

Viscosity (24): 1470 cP (Viscostar Plus, R4, speed 50).

- Natural serum formula with Immediate tightening effect
- Skin tone improvement
- Ecocert validated
- Alguard as biological anti-wrinkle active



# Anti-Ageing Face Cream

TRADE NAME	INCI NAME	w/w %	
A	Deionised Water	Aqua	60.10
	EDTA	EDTA	0.10
B	BHT	Butylated Hydroxytoluene	0.10
	PPG	Propylene Glycol	5.00
	Cearyl Alcohol	Cetyl Alcohol	3.00
	Polawax	Emulsifying	3.00
	Dimethicone 100 cpz	Dimethicone	4.00
C	Simulgel NS (1)	Hydroxyethyl acrylate / Sodium acryloyldimethyl taurate Copolymer & Squalene & Polysorbate 60	4.00
D	TopicPure Schisandra Berries	Schisandra Chinensis Fruit Extract	2.50
	PPG	Propylene Glycol	5.00
E	Deionised Water	Aqua	5.00
	TopicPure Green Mate	Ilex Paraguariensis Leaf Extract	0.50
	TopicPure Echinacea Root	Echinacea Purpurea Root Extract	0.50
	TopicPure Red Vine Aq	Vitis Vinifera Leaf Extract	0.50
F	Dispersed TiO2	Titanium Dioxide and Propylene Glycol	5.00
	<b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>1.00</b>
	Microcare MTC (2)	Methylisothiazolinone (and) Chlorphenesin	0.70

## Manufacturing Procedure:

### Step I

1) Into a suitable container charge Part A and heat to 80°C - 85°C.

### Step II

1) Into another container charge Part B and heat to 80°C-85°C.

### Step III

1) Combine Part A and Part B.  
2) Then immediately add Part C. Mix thoroughly until smooth and homogeneous.

### Step IV

1) In a separate container premix Part D.  
2) Then add the premix to Step III.

### Step V

1) In a separate container premix Part E.  
2) Then add the premix to Step IV.

### Step VI

1) Finally add Part F.  
2) Then mix to complete.

(1) Manufactured by Seppic

(2) Manufactured by Thor



# Mature Skin Face Cream

TRADE NAME	INCI NAME	w/w %	
A	Deionised Water	Aqua	62.60
	EDTA	EDTA	0.10
	PPG	Propylene Glycol	5.00
B	BHT	Butylated Hydroxytoluene	0.10
	Polawax	Emulsifying	3.00
	Cetyl Alcohol	Cetyl Alcohol	3.00
	Dimethicnoe 100 cps	Dimethicone	4.00
C	Simulgel NS (1)	Hydroxyethyl acrylate / Sodium acryloyldimethyl taurate Copolymer & Squalene & Polysorbate 60	4.00
D	TopicPure Green Tea	Camellia Sinensis Leaf Extract	1.00
	PPG	Propylene Glycol	3.00
E	Deionised Water	Aqua	7.00
	TopicLife Soy	Glycine Soja (soybean) Germ Extract	1.50
	TopicPure Pumpkin Seed	Cucurbita Pepo (pumpkin) Seed Extract	1.00
	TopicPure Lemon Balm	Melissa Officinalis Leaf Extract	1.00
F	Dispersed TiO2	Titanium Dioxide and Propylene Glycol	2.00
	<b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>1.00</b>
	Microcare MTC (2)	Methylisothiazolinone (and) Chlorphenesin	0.70

## Manufacturing Procedure:

### Step I

1) Into a suitable container charge and heat to 80°C - 85°C Part A.

### Step II

1) Into another container charge and heat to 80°C- 85°C Part B.

### Step III

1) Combine Part A and Part B.  
2) Then immediately add Part C. Mix thoroughly until smooth and homogeneous.

### Step IV

1) In a separate container premix Part D.  
2) Then add the premix to Step III.

### Step V

1) In a separate container premix Part E.  
2) Then add the premix to Step IV.

### Step VI

1) Finally add Part F.  
2) Then mix to complete.

(1) Manufactured by Seppic

(2) Manufactured by Thor



# Sensitive Skin Lotion

TRADE NAME	INCI NAME	w/w %
A Deionised Water	Aqua	59.65
EDTA	EDTA	0.10
B BRIJ 72 (1)	Steareth-2	1.00
BRIJ 172 (1)	Steareth-21	0.50
Cithrol EGMS	Glycol Stearate	1.50
Polawax	Emulsifying	1.50
Mineral Oil	Mineral Oil	8.00
BHT	Butylated Hydroxytoluene	0.05
IPM	Isopropyl Myristate	5.00
C Simulgel NS (2)	Hydroxyethyl acrylate / Sodium acryloyldimethyl taurate Copolymer & Squalene & Polysorbate 60	3.00
D TopicPure Pink Rock Rose	Cistus Incanus Leaf / Stem / Flower Extract	1.00
PPG	Propylene Glycol	3.00
E Deionised Water	Aqua	7.00
TopicLife Soy	Glycine Soja (soybean) Germ Extract	1.00
TopicPure Willow Mix	Salicis sp. Bark Extract (suggested)	1.00
TopicPure Echinacea Root	Echinacea Purpurea Root Extract	0.50
F Dispersed Tio2	Titanium Dioxide and Propylene Glycol	3.00
<b>Alguard PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>2.50</b>
Microcare MTC (3)	Methylisothiazolinone (and) Chlorphenesin	0.70

- (1) Manufactured by Croda
- (2) Manufactured by Seppic
- (3) Manufactured by Thor

## Manufacturing Procedure:

### Step I.

1) Into a suitable container charge Part A and heat to 80°C - 85°C.

### Step II

1) Into another container charge Part B and heat to 80C-°85C.

### Step III

1) Combine Part A and Part B.  
2) Then immediately add Part C. Mix thoroughly until smooth and homogeneous.

### Step IV

1) In a separate container premix Part D.  
2) Then add the premix to Step III.

### Step V

1) In a separate container premix Part E.  
2) Then add the premix to Step IV.

### Step VI

1) Finally add Part F.  
2) Then mix to complete.



# Male Oily Skin Lotion

TRADE NAME	INCI NAME	w/w%
A Deionised Water	Aqua	62.75
EDTA	EDTA	0.10
B BRIJ 72 (1)	Steareth-2	1.00
BRIJ 172 (1)	Stearet-21	0.50
Cithrol EGMS (1)	Glycol Stearate	1.50
Polawax	Emulsifying	1.50
Mineral Oil	Mineral Oil	8.00
BHT	Butylated Hydroxytoluene	0.05
IPM	Isopropyl Myristate	5.00
C Simulgel NS (2)	Hydroethyl acrylate / Sodium acryloyldimethyl taurate Crosspolymer & Squalene & Polysorbate 60	2.00
D Deionised Water	Aqua	7.00
TopicPure Pumpkin Seed	Cucurbita Pepo (pumpkin) Seed Extract	2.00
TopicPure Olive Leaf	Olea Europea (olive) Leaf Extract	1.00
Guarana Seed Extract	Paullinia Cupana Seed Extract	0.50
TopicPure Red Vine Aq	Vitis Vinifera Leaf Extract	0.50
E Dispersed TiO2	Titanium Dioxide	5.00
<b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>1.00</b>
Microcare MTC (3)	Methylisothiazolinone (and) Chlorphenesin	0.70

## Manufacturing Procedure:

### Step I

1) Into a suitable container charge Part A and heat to 80°C - 85°C.

### Step II

1) Into another container charge Part B and heat to 80°C-85°C.

### Step III

1) Combine Part A and Part B.  
2) Then immediately add Part C. Mix thoroughly until smooth and homogeneous.

### Step IV

1) In a separate container premix Part D.  
2) Then add the premix to Step III.

### Step V

1) Finally add Part E.  
2) Then mix to complete.

- (1) Manufactured by Croda
- (2) Manufactured by Seppic
- (3) Manufactured by Thor



# After Sun Care Cream

TRADE NAME	INCI NAME	w/w %
A Deionised Water	Aqua	73.70
EDTA	EDTA	0.10
Simulgel NS (1)	Hydroxyethyl acrylate / Sodium acryloyldimethyl taurate Copolymer & Squalene & Polysorbate 60	6.00
B PPG	Propylene Glycol	8.00
TopicPure Green Tea	Camellia Sinensis Leaf Extract	0.50
TopicPure Pink Rock Rose	Cistus Incanus Leaf / Stem / Flower extract	2.50
C Deionised Water	Aqua	5.00
TopicPure Olive Leaf	Olea Europea (olive) Leaf Extract	0.50
D <b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>1.00</b>
Microcare MTC (2)	Methylisothiazolinone (and) Chlorphenesin	0.70
Dispersed TiO2	Titanium Dioxide and Propylene Glycol	2.00

(1) Manufactured by Seppic

(2) Manufactured by Thor

## Manufacturing Procedure:

### Step I

- 1) Into a suitable container charge Part A and heat to 75°C.
- 2) Mix until homogeneous.
- 3) While mixing start cooling to 40°C.

### Step II

- 1) Into another container premix Part B.
- 2) Mix until uniform.

### Step III

- 1) Add the premix from Part B to Part A.

### Step IV

- 1) Into another container premix Part C.
- 2) Then add the premix to the main mixing container and mix thoroughly until uniform.

### Step V

- 1) Finally add one at a time ingredients from Part D.
- 2) Mix until uniform.



# Acne Prone Skin Care Gel

TRADE NAME	INCI NAME	w/w %
A Deionised Water	Aqua	65.30
EDTA	EDTA	0.10
B Simulgel NS (1)	Hydroxyethyl acrylate / Sodium acryloyldimethyl taurate Copolymer & Squalene & Polysorbate 60	7.00
C Salicylic Acid	Saliclic Acid	0.50
Ethyl Alcohol	Ethyl Alcohol	10.00
D TopicLife Linum	Linum Usitatissimum (Linseed) Hull Extract	0.50
TopicPure Green Tea	Camellia Sinensis Leaf Extract	1.00
PPG	Propylene Gcol	3.00
E Deionised Water	Aqua	5.00
TopicPure Willow Mix	Salix sp. Bark Extract (suggested)	2.50
F Dispersed TiO2	Titanium Dioxide and Propylene Glycol	3.00
Vitamin E	Tocopheryl Acetate	0.50
Alpha Bisabolol	Alpha Bisabolol	0.10
<b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>1.00</b>
Phenoxy Ethanol	Phenoxy ethanol	0.50

## Manufacturing Procedure:

### Step I

- 1) Into a suitable container charge Part A and heat to 80°C - 85°C.
- 2) Then immediately add Part B. Mix thoroughly until smooth and homogeneous.

### Step II

- 1) In a separate container premix Part C.
- 2) Then add the premix to Step I.

### Step III

- 1) In a separate container premix Part D.
- 2) Then add the premix to Step II.

### Step IV

- 1) In a separate container premix Part E.
- 2) Then add the premix to Step III.

### Step V

- 1) Finally add Part F.
- 2) Then mix to complete.

(1) Manufactured by Seppic



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# Lifting Face Serum

TRADE NAME	INCI NAME	w/w %
A Propanediol	Propanediol	2.00
Amigel (1) or	sclerotium gum	1.00
Rhodiacare XC (2) or	Xanthan Gum	1.00
B Deionized water	Aqua	91.20
C <b>Alguard PF/ PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>5.00</b>
Geogard 221 (3)	Gluconolactone (and) Sodium Benzoate	0.80

- (1) Manufactured by Alban Muller Industries
- (2) Manufactured by Rhodia
- (3) Manufactured by Lonza

## Manufacturing Procedure:

### Step I

1) Mix the Amigel / Rhodiacare XC with propanediol. To make a paste.

### Step II

1) Add water, while mixing at maximal speed (or homogenizing) – continue until uniform transparent gel is formed

### Step III

1) Add the Alguard and the preservative while mixing until uniform gel appears.





# Baby Shampoo

TRADE NAME	INCI NAME	w/w %
A Deionised water	Aqua	76.10
Setacin 103 SP (1)	Disodium Laureth Sulfosuccinate	2.00
Amphoterge W-2 (2)	Disodium Cocoamphodiacetate	12.00
ABC (3)		6.00
Crotix* (4)		1.00
<b>B Alguard PREMIUM</b>	<b>Porphyridium Polysaccharide</b>	<b>0.50</b>
TopicPure Olive Leaf**	Olea Europea (olive) Leaf Extract	0.20
Geogard 221 (2)	Gluconolactone (and) Sodium Benzoate	0.80
C Fragrance	Mom's love 8443317	0.20
Tween 20	Polysorbate 20	1.00

Add HCl to get pH ~ 7 (range 6.8-7.2)

\* High viscosity caused by crotix addition will be reduced after Tween addition.

\*\* Turbidity caused by extracts addition will be reduced by Tween addition to get a clear product.

(1) Manufactured by Zimmer & Schwartz

(2) Manufactured by Lonza

(3) Manufactured by Zohar Dalya

(4) Manufactured by Croda

## Manufacturing Procedure:

### Step I

- 1) Weigh the water and warm to 65°C.
- 2) Add A under stirring while keeping the temperature until complete dissolution.
- 3) Cool the mixture to 55°C.

### Step II

- 1) When A reaches 55°C. add B under stirring and continue cooling.

### Step III

- 1) Mix all C ingredients together.
- 2) When A+ B reached 40°C add C and mix until product is clear.

Thank You

