



Salicylic Acid / Exfoliating Facial Cleanser with Cucumber and Biopolysan® 120

PHASE 1	WT. %
DI Water	QS
Disodium EDTA	0.20%
PLANTAPON® SF ¹	18.00%
Cocamidapropyle Betaine	2.50%
LAMESOFT® ²	1.50%
PEG 150 Distearate	1.00%
PHASE 2	WT. %
Salicylic Acid	1.50%
Propanediol	4.00%
Biopolysan® 120	2.00%
Cucumber Extract	0.50%
Polysorbate 80	1.50%
Fragrance	QS
Citric Acid/NaOH	QS

Procedure:

1. Mix in EDTA until completely dissolved. Combine the rest of the ingredients in Phase 1 and heat to 70°C with low shear mixing to avoid over foaming.
2. In a separate container, combine ingredients in Phase 2 with low shear mixing and heat to 40°C.
3. Slowly add Phase 2 to Phase 1 with low-medium shear mixing. Adjust pH to 5.8-6.2 with Citric Acid and/or NaOH.
4. Allow the mixture to cool to safe transfer temperature. Product will clear slowly after mixing.

Materials:

1. PLANTAPON® SF (BASF): Sodium Cocoamphoacetate (and) Glycerin (and) Lauryl Glucoside (and) Sodium Cocoyl Glutamate (and) Sodium Lauryl Glucose Carboxylate.¹
2. LAMESOFT® (BASF): Coco-Glucoside (and) Glyceryl Oleate.²

In this formulation, Biopolysan® 120 acts as a diluent, emulsifier, and antimicrobial agent.

¹ PLANTAPON® is a registered trademark of the BASF Corporation

² LAMESOFT® is a registered trademark of the BASF Corporation

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Biopolysan[®]

Revitalizing Heel Cream with Biopolysan[®] 120

PHASE 1		WT. %
DI Water		43.00%
Disodium EDTA		0.05%
CARBOPOL [®] ULTREZ 10 ¹		0.70%
KLUCEL [®] HXF Pharm ²		0.40%
PHASE 2		WT. %
Water		34.82%
NaOH (50%)		0.30%
UREA		5.00%
PHASE 3		WT. %
Stearic Acid		3.00%
Organic Unrefined Coconut Oil		5.00%
Cetyl Alcohol		1.80%
Glyceryl Stearate SE		1.80%
PHASE 4		WT. %
Biopolysan[®] 120		4.00%
Eucalyptus EO		0.09%
Peppermint EO		0.04%

Procedure:

- Phase 1: Heat water to 70°C and add other ingredients in the order listed. Mix with high shear until all ingredients are dispersed.
Phase 2: In separate container, heat water to 70°C and add other ingredients in the order listed. Mix with low shear.
Phase 3: In separate container, combine ingredients in the order listed and heat to 70°C to melt. Mix with low shear.
Phase 4: In separate container, combine ingredients in the order listed and mix with low shear. Heat to 40°C.

1. With high shear mixing, add Phase 2 to Phase 3.
2. Add Phases 2/3 to Phase 1, homogenize.
3. Cool Phases 1/2/3 to 40°C and add Phase 4

¹ CARBOPOL[®] is a registered trademark of the LUBRIZOL Advanced Materials, Inc. Corporation

² KLUCEL[®] is a registered trademark of the HERCULES LLC Limited Liability Company

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**Animal Care:
Equine Antifungal Spray
with Biopolysan® 120**

PHASE 1		WT. %
DI Water		91.00%
Disodium EDTA		0.20%
PHASE 2		WT. %
Biopolysan® 120		6.00%
Benzalkonium Chloride		0.10%
Hexylene Glycol		0.80%
PEG-25 Hydrogenated Castor Oil		0.50%
PEG-40 Hydrogenated Castor Oil		0.50%
Fragrance		QS

Procedure:

Phase 1: Dissolve EDTA in water.

Phase 2: In a separate container, combine ingredients in Phase 2 in the order listed. Mix at high shear. Add Phase 2 to Phase 1 with high shear mixing.

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**Animal Care:
Medicated Conditioning Shampoo
for Pets with Biopolysan® 120**

PHASE 1		WT. %
DI Water		67.50%
Surfactant: AOS, Salt, Cocamide MEA, and Cocamidopropyl Betaine		25.00%
PHASE 2		WT. %
Biopolysan® 120		6.00%
Benzalkonium Chloride		0.10%
Fragrance		QS
PHASE 3		WT. %
Salt		QS

Procedure:

Phase 1: Combine water and surfactant with low shear mixing to avoid over foaming.

Phase 2: Combine ingredients in Phase 2 in order of appearance and with low shear mixing.

Add Phase 2 to Phase 1 slowly and with medium shear mixing.

Add salt to desired viscosity.

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No-Bump Aftershave Lotion
for Men with Biopolysan® 120

PHASE 1		WT. %
Isopropyle Palmitate		1.50%
Capric/Caprylic Triglycerides		1.50%
Glyceryl Stearate SE		2.00%
Glycerin		4.00%
PHASE 2		WT. %
Water		75.04%
Disodium EDTA		0.06%
CARBOPOL® 940 ¹		0.70%
KLUCEL® HXF Pharm ²		0.30%
SDA 40B		7.00%
Salicylic Acid		2.00%
Steareth 20		0.20%
PHASE 3		WT. %
Biopolysan® 120		4.00%
Cucumber Extract		0.50%
Fragrance		0.20%
Polysorbate 80		1.00%
PHASE 4		WT. %
Sodium Hydroxide, 50%		QS

Procedure:

Phase 1: Combine ingredients in the order listed and heat to melt to ~ 60°C with medium shear mixing.

Phase 2: In a separate container, add ingredients in Phase 2 in order of appearance, according to standard practice. Heat to around 40°C. Homogenize.

Phase 3: Combine and mix the ingredients in order of appearance with medium shear mixing.

Add Phase 2 to Phase 1, homogenize.

Add Phase 3 to newly combined Phases 1 & 2. Homogenize.

Phase 4: Adjust pH to 6.5-6.8 with sodium hydroxide solution.

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² KLUCEL® is a registered trademark of the HERCULES LLC Limited Liability Company

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Canine (Pet) Ear Wash with Cucumber Extract and Biopolysan® 120

PHASE 1		WT. %
DI Water		QS
Disodium EDTA		0.05%
PHASE 2		WT. %
Plantapon SF ¹		18.00%
Cocamidapropyle Betaine		2.50%
Lamesoft PO ²		1.50%
PEG 150 Distearate		1.00%
PHASE 3		WT. %
Biopolysan® 120		QS
Cucumber Extract		0.50%
Polysorbate 80		1.50%
Fragrance		0.75%

Procedure:

Phase 1: Combine ingredients in Phase 1 and heat to 70°C. Mix until EDTA is completely dissolved.

Phase 2: Add ingredients in Phase 2 to Phase 1. Mix at medium.

Phase 3: In separate container, combine ingredients in Phase 3. Add Phase 3 ingredients to Phase 1 + Phase 2 ingredients.

pH between 6.5 - 7.5

¹ Plantapon® SF (BASF): Sodium Cocoamphoacetate (and) Glycerin (and) Lauryl Glucoside (and) Sodium Cocoyl Glutamate (and) Sodium Lauryl Glucose Carboxylate

² Lamesoft® (BASF): Coco-Glucoside (and) Glyceryl Oleate

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PHASE 1		WT. %
DI Water		42.00%
Disodium EDTA		0.05%
Carbopol [®] 940 ¹		0.75%
PHASE 2		WT. %
Water		34.20%
UREA		5.00%
PHASE 3		WT. %
Organic Unrefined Coconut Oil		4.50%
Cetyl Alcohol		2.00%
Glyceryl Stearate SE		2.00%
PHASE 4		WT. %
Biopolysan[®] 120		5.00%
Benzyl Alcohol		0.50%
Eucalyptus/Peppermint EO		QS

Procedure:

Prepare Phase 1 by adding EDTA to water and then hydrating and dispersing Carbopol[®]. Heat to 70°C.

In a separate container, prepare Phase 2 by combining UREA in water. Heat to 40°C.

In a separate container, prepare Phase 3 by combining the ingredients and heating to 70°C.

In a separate container, prepare Phase 4 by combining all ingredients and mixing.

With high shear mixing, add Phase 2 to Phase 3.

With high shear mixing, add Phase 1 to Phase 2+3

Cool to 40°C and add Phase 4

pH range >8.00

Viscosity

¹ Carbopol[®] is a registered trademark of the Lubrizol Corporation

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Biopolysan[®]

Antifungal Animal Shampoo with Biopolysan[®] 120

PHASE 1		WT. %
DI Water		67.50%
Stepanol PB ¹		25.00%
PHASE 2		WT. %
Biopolysan[®] 120		6.00%
Benzalkonium Chloride		0.10%
Tea Tree Oil		0.50%
Fragrance		0.00%

Procedure:

Phase 1: Combine ingredients in Phase 1 with low shear mixing.

Phase 2: Combine, in order, with mixing, Biopolysan[®] 120 + Benzalkonium Chloride, then add Tea Tree Oil & Fragrance. Mix.

Add the ingredients in Phase 2 into Phase 1 with medium shear mixing

Add salt to desired viscosity.

¹ Stepanol[®] is a registered trademark of Stepan Company
Ammonium Lauryl Sulfate, Ammonium Laureth Sulfate, Cocamide DEA, Cocamidopropyl Betaine, Glycol Stearate

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Biopolysan[®]

Clear Equine Conditioning Spray with Antifungal Properties and Biopolysan[®] 120

PHASE 1		WT. %
DI Water		90.31%
Disodium EDTA		0.10%
PHASE 2		WT. %
Biopolysan[®] 120		6.00%
Benzalkonium Chloride		0.10%
FS 102 ¹		3.00%
Tea Tree Oil		0.50%

Procedure:

Phase 1: Add Disodium EDTA to DI water and mix until Disodium EDTA is completely dissolved

Phase 2: In separate container, combine the ingredients in Phase 2, in order of appearance. Mix to homogeneous.

Slowly add Phase 2 to Phase 1 with medium shear mixing.

¹ FS 102 may be substituted with Cremaphor

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Biopolysan[®]

Equine Lotion, 10% BPS with Biopolysan[®] 120

PHASE 1		WT. %
DI Water		82.71%
Disodium EDTA		0.04%
Carbopol ¹ Ultrez 10		0.50%
PHASE 2		WT. %
Biopolysan[®] 120		10.00%
Capric/Caprylic Triglycerides		3.00%
Coconut Oil		3.50%
Tea Tree Oil		0.25%

Procedure:

Prepare Phase 1 by adding EDTA to water and mix. Add Carbopol to hydrate and disperse.
Prepare Phase 2 by combining ingredients in the order that they appear. Heat to 40°C.
Add Phase 2 to Phase 1 with vigorous mixing or homogenization.

¹ Carbopol is a registered trademark of the Lubrizol[®] Corporation

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