MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

Technical Data Sheet
March 2020 – V6

EasySafe Green A

A blend of nature-derived and nature-identical ingredients for creating self-preserved formulations over a large pH range.

EasySafe Green A is a synergistic combination of **nature-derived** Pentylene Glycol and the **nature-identical** fragrance component Phenylpropanol. Its major ingredient, **bio-sourced** Pentylene Glycol, is **sustainably made** from sugar cane bagasse.

EasySafe Green A is a non-ionic multifunctional blend for the **microbial protection** of cosmetics and for the **moisturizing and conditioning of the skin.** It also brings a comfortable, balsamic and floral note to formulations

EasySafe Green A shows a **broad spectrum anti-microbial activity** and helps to protect all types of cosmetic products against microbial degradation. This activity is largely **independent of the pH** and the blend is **free of listed preservatives.**

EasySafe Green A also exhibits a **long-lasting skin moisturizing effect** (see corneometry study).

Functions
- Antimicrobial protection agent
- Moisturizer
- Emollient
- Fragrance
- Masking

Applications
- Skin Care
- Hair Care
- Make up
- Toiletries
- High pH formulations

Specifications and characteristics

INCI	Pentylene Glycol (and) Phenylpropanol
CAS Reg. N°	[5343-92-0]; [122-97-4]
Appearance	Clear colourless liquid
Odour	Faint, aromatic
Density at 20 °C	0.96 – 0.98 g/ml
Recommended pH of use	3.0 – 10.0 (unlimited)
Recommended use level	1.0 to 3.0 %
Regulatory status	Globally approved; safety and regulatory datasheets are available upon request
Origin, ISO 16128	Derived natural Natural origin index: 0.69 Contains 63% renewable carbon
Chemical structures	

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Application of EasySafe Green A in different cosmetic products

a)* Purifying Clay Mask – *pH 8.0

Phase	Raw material	INCI name	%
A	Water	*Aqua*	ad 100
	Fresh'in Green+[1]	***Pentylene Glycol (and) Methyl Diisopropyl Propionamide***	**0.3**
	Xanthan Gum [2]	*Xanthan Gum*	0.5
B	Emulgade PL 68/50[3]	*Cetearyl Glucoside (and) Cetearyl Alcohol*	5.0
	Shea Butter [4]	*Butyrospermum Parkii (Shea) Butter*	3.0
	Jojoba Oil [4]	*Simmondsia Chinensis (Jojoba) Seed Oil*	3.0
	Hazelnut Oil [5]	*Corylus Avellana (Hazel) Seed Oil*	3.0
C Premix	Water	*Aqua*	20.0
	CosGreen Surfine[6]	*Kaolin*	20.0
D	DL-α-Tocopherol (>97%)	*Tocopherol*	0.1
	Perfume Bamboo & Lemon Grass[7]	*Parfum*	0.5
	EasySafe Green A[1]	***Pentylene Glycol (and) Phenylpropanol***	**3.0**
E	Sodium Hydroxide solution	*Aqua (and) Sodium Hydroxide*	qs

b) Micellar water – pH 7.0

Phase	Raw material	INCI name	%
A	Water	*Water*	ad 100
	Allantoin	*Allantoin*	0.2
	Glycerin	*Glycerin*	3.0
	Chamomile-Eco[8]	*Glycerin (and) Water (and) Chamomilla Recutita (Matricaria) Flower Extract*	1.0
	Glycerox 767[9]	*PEG-6 Caprylic/Capric Glycerides*	2.0
	Plantacare 810 UP[3]	*Caprylyl/Capryl Glucoside*	2.0
B	**EasySafe Green A[1]**	***Pentylene Glycol (and) Phenylpropanol***	**2.0**
C	Lactic acid solution (20%)	*Water (and) Lactic Acid*	qs

c) O/W emulsion – pH 5.5

Phase	Raw material	INCI name	%
A	Water	*Aqua*	ad 100
	Xanthan Gum [2]	*Xanthan Gum*	0.5
B	Emulgade PL 68/50[3]	*Cetearyl Glucoside (and) Cetearyl Alcohol*	5.0
	Shea Butter [4]	*Butyrospermum Parkii (Shea) Butter*	3.0
	Jojoba Oil [4]	*Simmondsia Chinensis (Jojoba) Seed Oil*	3.0
	Hazelnut Oil [5]	*Corylus Avellana (Hazel) Seed Oil*	3.0
C	DL-α-Tocopherol (>97%)	*Tocopherol*	0.1
	EasySafe Green A [1]	***Pentylene Glycol (and) Phenylpropanol***	**2.0**
D	Citric Acid (25%)	*Aqua (and) Citric Acid*	qs

d) Intimate cleansing gel - pH 4.5

Phase	Raw material	INCI name	%
A	Water	*Water*	ad 100
	Allantoin	*Allantoin*	0.2
	Glycerin	*Glycerin*	2.0
	Sorbitol	*Sorbitol*	2.0
	Xanthan Gum [2]	*Xanthan Gum*	0.5
B	Plantacare 2000 UP [3]	*Decyl Glucoside*	10.0
	Tego Betain 810 [10]	*Capryl/Capramidopropyl Betaine*	3.0
C	**EasySafe Green A [1]**	***Pentylene Glycol (and) Phenylpropanol***	**2.0**
D	Lactic acid solution (20%)	*Water (and) Lactic Acid*	qs

Raw material suppliers:

[1] **Minasolve ;** [2] Jungbunzlauer; [3] BASF; [4] Caesar & Loretz; [5] SanaBio; [6] Argiles du Velay/Cameleon Chemicals; [7] Bell; [8] Provital Group; [9] Croda; [10] Evonik

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Results of Microbial Challenge Tests according to ISO 11930

a)* Purifying Clay Mask – *pH 8.0

3 % EasySafe Green A

0 % EasySafe Green A

b) Micellar water – pH 7.0

2 % EasySafe Green A

0 % EasySafe Green A

c) O/W emulsion – pH 5.5

2 % EasySafe Green A

0 % EasySafe Green A

d) Intimate cleansing gel - pH 4.5

2 % EasySafe Green A

0 % EasySafe Green A

ISO 11930 requirements for reduction of log (cfu/g) after 28 days (criteria A)

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→ **EasySafe Green A** demonstrates a broad spectrum antimicrobial activity, over a large pH range, in a variety of products (emulsions, detergents-based solution and gel).

Corneometry study

EasySafe Green A is an effective **skin humectant**. Its long-lasting moisturizing effect, similar to glycerin, was demonstrated in a corneometry study over 24 hours. Aqueous solutions of the test substances were applied to the forearms of 15 female panellists, aged 18 - 65.

Application in cosmetic formulations

EasySafe Green A is soluble in water at the recommended use levels. It is also miscible with alcohols, polar oils and emollient esters.

EasySafe Green A is suitable for hot or cold processing and can be added at any stage of the production. For maximum efficacy, it is preferably incorporated into an aqueous phase and/or after emulsification. The blend is compatible with all common cosmetic ingredients.

Further readings

- Bathia SP. et al., "Fragrance material review on 3-phenyl-1-propanol", *Food Chem Toxicol., 49 (Suppl 2), 246-251,* **2011.**
- Pillai R. et al., "1,2-Alkanediols for Cosmetic Preservation", *Cosmetics & Toiletries Magazine*, *123 (10), 53-61,* **2008.**
- Schnittger S. et al., "Use of alkanediols in personal care formulations – closer look at antimicrobial activity", *Proceedings of the SCC Annual Scientific Meeting & Technology Showcase*, New York, **2006**.

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