MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

Technical Data Sheet
March 2020 – V4

A-Leen Aroma-3

Nature-derived perfuming agent with pH-independent antimicrobial effect

A-Leen Aroma-3 is a **100% nature-derived** version of Phenylpropanol, a fragrance component naturally occurring in flowers and fruits – such as Hyacinths, Narcissus and ripe strawberries.

A-Leen Aroma-3 is a mild perfuming agent. It brings a comfortable, **balsamic and spicy oriental note** to personal care products.

A-Leen Aroma-3 also shows a **broad spectrum anti-microbial activity** that helps to design **self-preserving cosmetic products**. This activity is largely **pH independent.** The antimicrobial effect can be further supported by combination with antimicrobial boosting agents, such as nature-derived Pentylene Glycol ("A-Leen5").

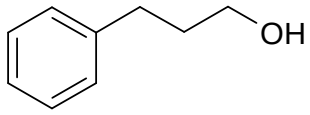
A-Leen Aroma-3 is produced starting from Cassia essential oil, which is traditionally obtained by steam distillation from the leaves and branches of the Chinese cinnamon tree *Cinnamomum cassia*. The whole manufacturing process of A-Leen Aroma-3 is **in accordance with the principles of "green-chemistry"** and complies with the standards **COSMOS** and **Natrue.**

A-Leen Aroma-3 is **free of listed preservatives.**

Functions
- Perfume
- Antimicrobal,
  for self-preserved formulations

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

Specifications and characteristics

INCI	Phenylpropanol	**Chemical structure** 
CAS Reg. N°	[122-97-4]	
FEMA-N° (USA)	2285	
FLAVIS-N° (EU)	02.031	
Appearance	Clear colourless liquid	
Odour	characteristic	
Purity	≥ 98.5%	
Boiling Point	236 – 238 °C (lit.)	**Regulatory status** Globally approved. Safety and regulatory datasheets are available upon request.
Density at 20 °C	1.0 g/ml	
Recommended pH of use	3.0 – 10.0 (unlimited)	
Recommended use level	0.05 – 1.0 %	
Origin, ISO 16128	- Derived-natural - Natural origin index = 1 - 100 % renewable carbon	**Biodegradation** 83 % after 28 days (OECD 301F)

NATRUE APPROVED

COSMOS APPROVED

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 100%

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Application of A-Leen Aroma-3 + X % A-Leen 5 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**
B Premix	**A-Leen 5(1)**	***Pentylene Glycol***	**2.25**
	Xanthan Gum (2)	*Xanthan Gum*	0.5
C	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
D Premix	Water	*Aqua*	20.0
	CosGreen Surfine (6)	*Kaolin*	20.0
E	DL-α-Tocopherol (>97%)	*Tocopherol*	0.1
	Perfume Bamboo & Lemon Grass (7)	*Parfum*	0.5
	A-Leen Aroma-3(1)	***Phenylpropanol***	**0.75**
F	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
	A-Leen 5 (1)	***Pentylene Glycol***	**1.5**
	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	**A-Leen Aroma-3(1)**	***Phenylpropanol***	**0.5**
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
B Premix	Xanthan Gum (2)	*Xanthan Gum*	0.5
	A-Leen 5 (1)	***Pentylene Glycol***	**1.5**
C	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
D	DL-α-Tocopherol (>97%)	*Tocopherol*	0.1
	A-Leen Aroma-3(1)	***Phenylpropanol***	**0.5**
E	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
	Sorbitol	*Sorbitol*	2.0
B Premix	Glycerin	*Glycerin*	2.0
	A-Leen 5(1)	***Pentylene Glycol***	**1.5**
	Xanthan Gum (2)	*Xanthan Gum*	0.5
C	Plantacare 2000 UP (3)	*Decyl Glucoside*	10.0
	Tego Betain 810 (10)	*Capryl/Capramidopropyl Betaine*	3.0
D	**A-Leen Aroma-3(1)**	***Phenylpropanol***	**0.5**
E	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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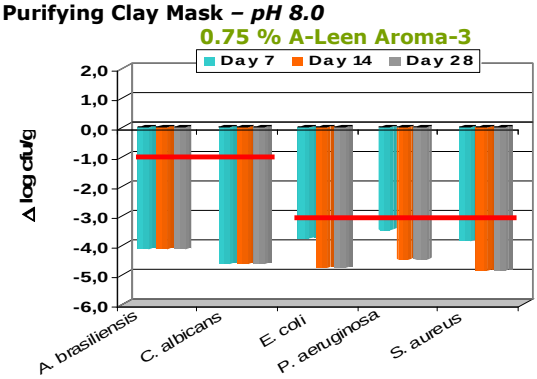
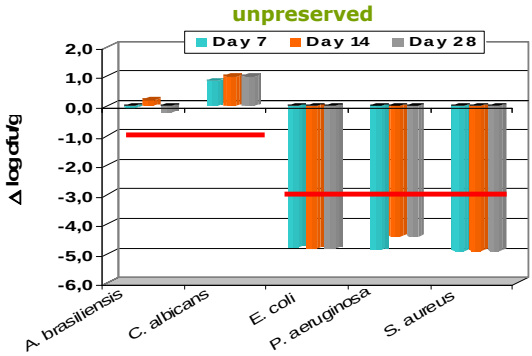
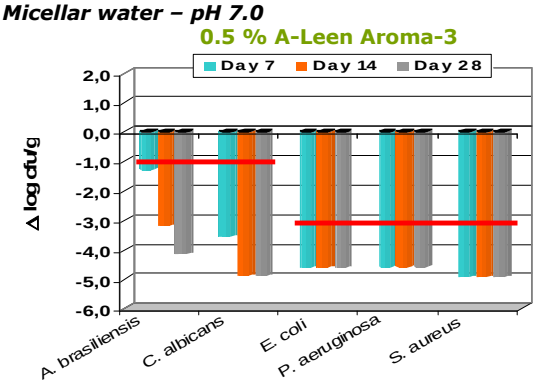
Results of Microbial Challenge Tests according to ISO 11930

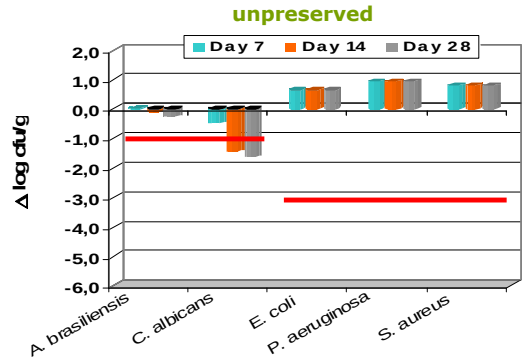
a)* Purifying Clay Mask – *pH 8.0



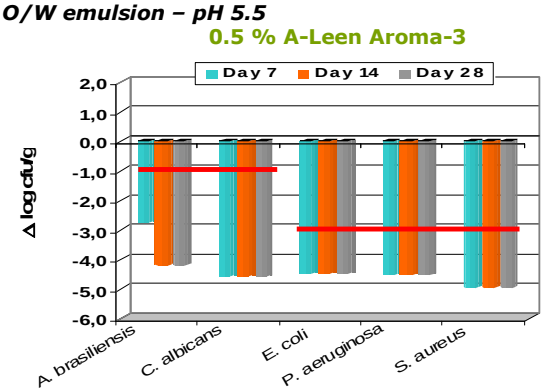


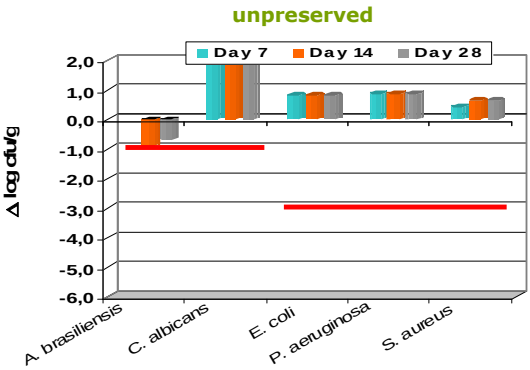
b) Micellar water – pH 7.0



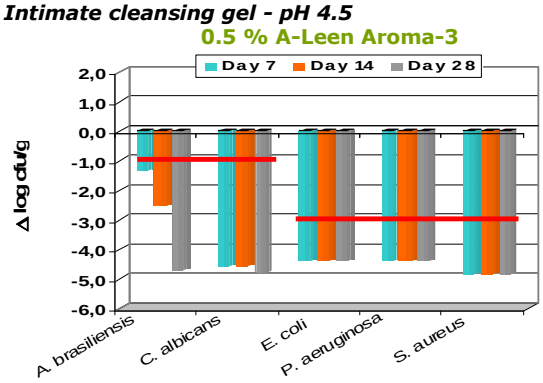


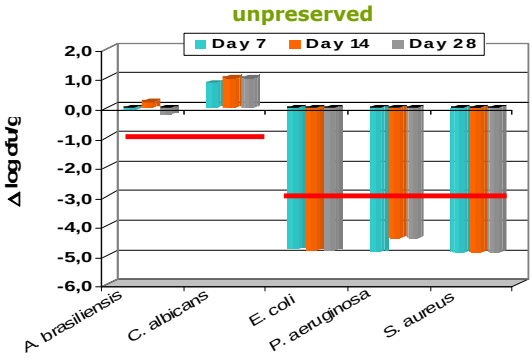
c) O/W emulsion – pH 5.5





d) Intimate cleansing gel - pH 4.5





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

→ **A-Leen Aroma-3** demonstrates a broad spectrum antimicrobial activity, over a large pH range and in a variety of products (emulsions, detergents-based solutions and gels).

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Application in cosmetic formulations

- **A-Leen Aroma-3** is soluble in water up to 0.8% at 20°C. It is also miscible with alcohols, polar oils and emollient esters.
- **A-Leen Aroma-3** is suitable for hot or cold processing (max. 150 °C). For maximum efficacy as perfuming and antimicrobial agent, it is preferably incorporated into an aqueous phase and/or after emulsification. The ingredient is compatible with most common cosmetic ingredients.
- The antimicrobial efficacy of **A-Leen Aroma-3** may be decreased in the presence of ethoxylated surfactants.

Further readings

- Bathia SP. et al., "Fragrance material review on 3-phenyl-1-propanol", *Food Chem. Toxicol., 49 (Suppl. 2), pp.246-251,* **2011.**
- Azodanlou R. et al., "Changes in flavour and texture during the ripening of strawberries", *Eur. Food Res. Technol. 218, pp.167–172*, **2004.**
- Anastas, PT., Warner, JC. "Green Chemistry: Theory and Practice" *Oxford University Press, New York, **1998**, p.30.*

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