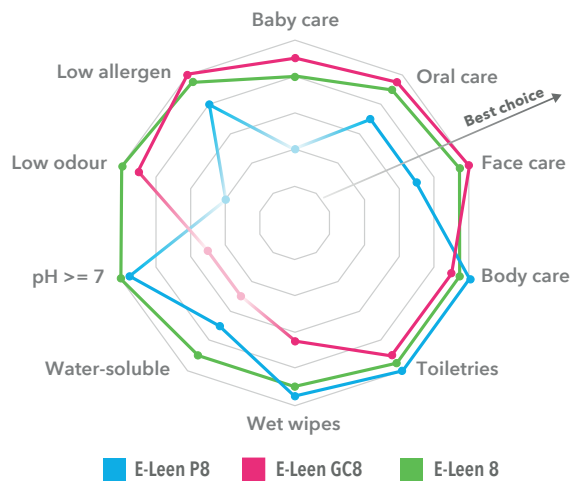


Specifications and Characteristics

NAME	E-LEEN 8	E-LEEN P8	E-LEEN GC 8
INCI	Caprylyl Glycol, Glycerin, Water	Caprylyl Glycol, Phenylpropanol, Water	Caprylyl Glycol, Glyceryl Caprylate/ Caprate, Glycerin
ASPECT	Liquid, colorless	Liquid, colorless	Liquid, almost colorless
ODOUR	Faint, characteristic	Faint, aromatic	Faint, characteristic
MELTING POINT	≈ 13°C	< 5°C	< -10°C
WATER SOLUBILITY (20°C)	0,9%	0,9%	<0,1%
pH OF USE	3.0 ▶ 10.0 (unlimited)	3.0 ▶ 10.0 (unlimited)	4.0 ▶ 7.0
USE LEVEL	0.5 ▶ 2.0%	0.5 ▶ 2.0%	0.5 ▶ 2.0%
NATURAL ORIGIN INDEX	1 (ISO 16128)	1 (ISO 16128)	1 (ISO 16128)

E-Leen selector



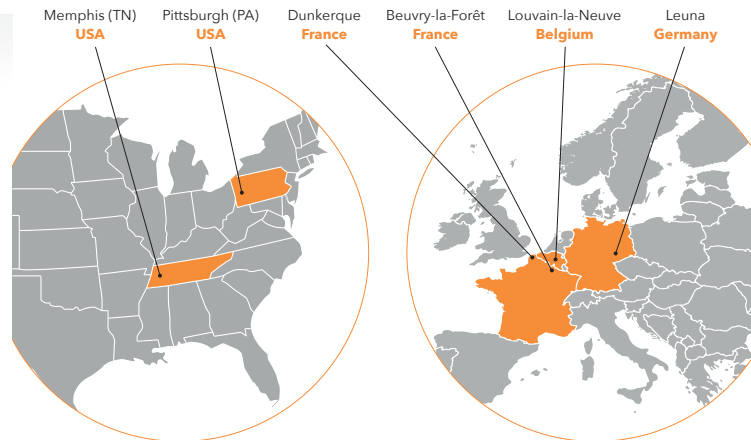
The above information is accurate to the best of our knowledge. Customers are advised to make their own studies on the usefulness of any ingredient for a particular application. Recommended usage information is only provided as indication and should not be considered as recommendations to use Minasolve SAS's products in violation of any laws, patents, or official regulations dealing with manufacture, composition, local procedures, product design, or end usage.

MINASOLVE® is an affiliate of MINAFIN® Group

Created in 2004, **The MINAFIN® Group**, specializes in fine chemistry for the life sciences and high tech industries. Activities include industrial subcontracting, development of chemical syntheses and industrial scale-up of custom-made processes as well as proprietary products with high added value for the pharmaceutical, cosmetics, agriculture and high-tech industries. Strong synergies exist between all business units: MINASOLVE, MINAKEM, MINAGRO, PENNAKEM, PRESSURE CHEMICALS, MINASCENT and EcoXtract.

Serving market leaders as well as emerging players we support our customers' efforts to improve the quality of life in the global community by:

- ▶ Improving our chemistry and operational excellence today
- ▶ Creating and innovating for tomorrow
- ▶ Driving our enterprises together to **go beyond expectations**



220
M€ SALES

888
EMPLOYEES

87
SCIENTISTS

6
PRODUCTION SITES

MINAFIN
GROUP

E leen®

8 - P8 - GC 8

ECO-FRIENDLY SOLUTIONS FOR SELF-PRESERVING NATURAL COSMETICS

✓ **With bio-based Caprylyl Glycol**

✓ **Low use-level**

✓ **Easy to use liquids**

Verified by
ECOCERT

COSMOS APPROVED

NATRUE APPROVED

NATRUE APPROVED

MINASOLVE
BIO-INGREDIENTS FOR YOUR APPLICATIONS

green solving attitude.

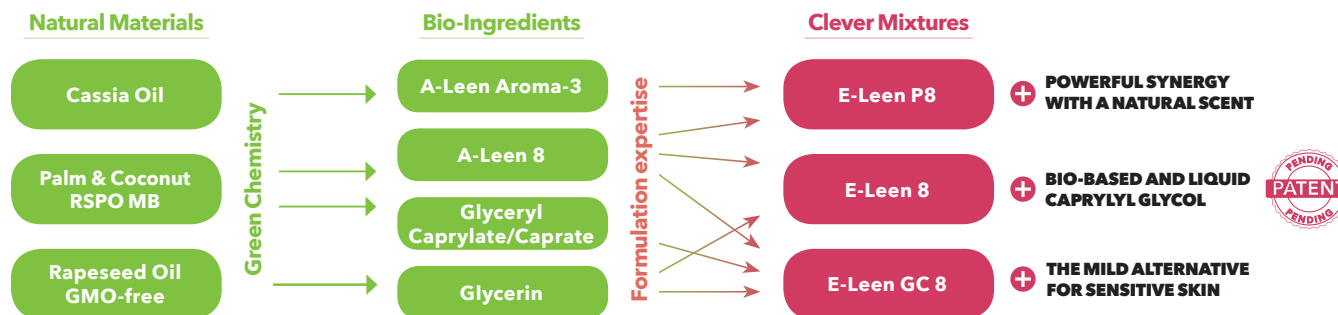
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2020.09. V1.1



MINASOLVE Green Solving Attitude:

From natural & sustainable sourcing to clever antimicrobial solutions



E-Leen 8, P8, GC 8 from MINASOLVE: THREE CLEVER MIXTURES BASED ON NATURE-DERIVED CAPRYLYL GLYCOL

For sustainable & natural cosmetics

Eco-responsibility is at the heart of MINASOLVE's global strategy. Our mission is to continuously offer innovative products while ensuring respect for people and the environment.

E-Leen 8, P8 and GC 8 are our newest innovations for self-preserved and **nature-based formulations**. All three products are of **100% natural origin**, **COSMOS** and **NATRUE approved**.

Each of the three products contains our **pioneering bio-based Caprylyl Glycol** that is produced via green chemistry from coconut oil and RSPO MB certified palm oil. The utilized raw materials are all **GMO-free and 100% vegetal**.

E-Leen 8, P8 and GC 8 are already efficient at **low use levels** and at **various pH-levels**. Being free of conventional preservatives, they represent an **unparalleled economical option** for the **alternative protection of natural cosmetics**.

All three solutions are **stable** and **easy-to-use liquids**. The high-performance ingredient Caprylyl Glycol therefore becomes **suitable for cold and continuous processing**. The resulting savings in time and energy during formulation and production contribute to the **overall ecological approach** behind these three ingredients.

Performance in microbial challenge tests

Phase	Raw material	INCI name	%
A	Demineralized Water	Aqua	ad 100
	Xanthan Gum N ⁽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
	Joboba Oil ⁽⁴⁾	Simmondsia Chinensis (Jojoba) Oil	3.0
	Hazelnut Oil ⁽⁴⁾	Corylus Avellana (Hazel) Seed Oil	3.0
C	Bioxan T70 ⁽⁵⁾	Tocopherol	0.1
D	aq. Citric Acid / NaOH	Citric Acid / Sodium Hydroxide / Aqua	pH 4.5 ▶ 8.0
E	E-Leen 8 / P8 / GC 8 ⁽¹⁾	Caprylyl Glycol + X...	0.5 ▶ 1.5 %

Phase	Raw material	INCI name	%
A	Demineralized Water	Aqua	ad 100
	Xanthan Gum N ⁽²⁾	Xanthan Gum	0.6
	Plantacare 818 UP ⁽³⁾	Coco Glucoside	15.0
	Plantapon ACG HC ⁽³⁾	Sodium Cocoamphoacetate	5.0
B	TEGO Betain F 50 ⁽⁴⁾	Cocamidopropyl Betain	5.0
	aq. Citric Acid / NaOH	Citric Acid / Sodium Hydroxide / Aqua	pH 4.5 ▶ 8.0
C	E-Leen 8 / P8 / GC 8 ⁽¹⁾	Caprylyl Glycol + X...	0.5 ▶ 2.0 %

Raw material suppliers:

⁽¹⁾ Minasolve ⁽²⁾ Jungbunzlauer ⁽³⁾ BASF ⁽⁴⁾ Casear & Loretz ⁽⁵⁾ BTSA ⁽⁶⁾ Evonik

		E-Leen 8			E-Leen P8			E-Leen GC 8			
		0.5%	0.75%	1%	0.5%	0.75%	1%	0.75%	1%	1.5%	
O/W emulsion	pH 4.5	B	●	●	A	A	●	B	A	●	
	5.5		A	A	A	A	A	B	A	A	
	7.0		A	A		B	A	B	B	A	
	8.0	B	A	A		A	A	-	-	-	
Sulfate-free shampoo (very hard to preserve)	pH 4.5		A	●	A	●	●	B	B	●	
	5.5			A		B	A	B	B	B	
	8.0					A	●	-	-	-	
	E-Leen P8 + E-Leen GC 8										
			0,5% + 0,5%		0,75% + 0,75%		1% + 1%				
	pH 4.5		A		●		●				
	5.5				A		●				

A Challenge test result, fulfils criteria A of ISO 11930 B Challenge test result, fulfils criteria B of ISO 11930 ● Likely to fulfill criteria A of ISO 11930 - Not suitable for this application

Standalone antimicrobial solutions

- ▶ Each of the three E-Leen solutions is effective as a standalone protection agent for various types of personal care products.
- ▶ E-Leen P8 can also act synergistically in combination with E-Leen GC 8 for very hard to preserve formulations.