



MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

**green
solving
attitude.**

Minasolve develops and supplies premium and multifunctional green chemistry ingredients for the cosmetics industry. As the pioneer of the widely adopted bio-based compound A-Leen 5 (Pentylene Glycol), Minasolve has vast expertise in renewable materials and sustainable production processes. With eco-responsibility at the center of its operations, Minasolve ensures customers have 100% traceability of its nature-derived ingredients. Its blends and formulations are safer to use, more biodegradable, and outperform commercial alternatives. Founded in 2010 as an affiliate of the Minafin Group, Minasolve manages R&D and global commercial activities from its headquarters location in Louvain-la-Neuve, Belgium.

www.minasolve.com



From a pioneer in biobased ingredients to a world leader in biobased innovation:

In 2022, the Minafin Group reorganized to become a unique and stronger player dedicated to biobased chemistry.

The Green Chemistry division of the Minafin Group focuses on sustainable resources to mitigate climate change and offers solutions to meet the demand for a more eco-friendly lifestyle.

Backed by over 60 years of technical expertise in transforming agricultural wastes into fine chemicals, this division aims to meet the strong consumer demand for green ingredients by accelerating the development of innovative, low-carbon emission processes.

The Green Chemistry division consists of two Business Units:

- Pennakem is the leader in providing biobased solutions to the specialty chemicals, agrochemical and pharmaceutical markets
- Minasolve develops premium and multifunctional green chemistry ingredients for the cosmetic market.

The Minafin Group which was founded in 2004 as a privately held company, operates six industrial manufacturing sites across Europe and North America and generated over €235M in revenue in 2021. The Minafin Group is headquartered in Belgium and employs 900+ staff.

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Pioneering Green Chemistry: the "green solving attitude" journey

Today's general environmental and human safety concerns associated with the global trend for sustainable production, have led to more and more interest in the development of high value ingredients in accordance with the 12 principles of green chemistry.

Minasolve is a pioneer of all-natural, biobased ingredients for cosmetic applications. Our supply chain is uniquely backward integrated to the plant-derived raw materials and we are able to provide our customers complete and transparent traceability on every biobased innovation, starting from crops to the end products.

A multiple steps strategy:

A-LEEN 5: THE FIRST STEP TOWARDS A PROMISING FUTURE:

In 2014, Minasolve launched a new, efficient, and cost-effective process to deliver industrial-scale volumes of the multifunctional biobased ingredient 1,2-pentanediol, marketed as A-Leen 5, for personal care and other applications.

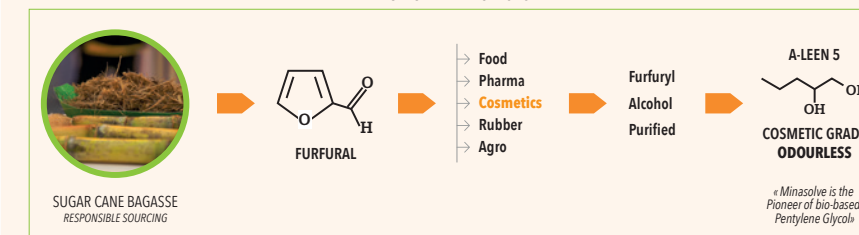
Minasolve is the only producer of green Pentylene Glycol starting from sugar cane bagasse with full raw material integration. Minasolve is a world leader in this market segment.

A-LEEN 5 PRODUCTION PROCESS:

BACK INTEGRATED RAW MATERIALS - FULL TRACEABILITY

« Pennakem, our US sister company is active in renewable chemistry since the 1940's »

FURFURAL APPLICATIONS



GREEN CHEMISTRY

A-LEEN AROMA-3: IN-COSMETICS GLOBAL 2020 BRONZE GREEN INGREDIENT AWARD WINNER

Minasolve has recently developed a proprietary green manufacturing process to produce a nature-derived version of Phenylpropanol. A-Leen Aroma-3 is based on valorizing Cassia essential oil, obtained by distillation from the leaves and twigs of the Cinnamomum cassia tree. Renewable chemistry is used to create this high-quality cosmetic ingredient.

A-LEEN AROMA-3 PRODUCTION PROCESS:



A-LEEN 8: OUR NEWEST CONTRIBUTION TO NATURAL COSMETICS

On its "Green Solving Attitude" journey, Minasolve has introduced another green multifunctional ingredient, a nature-derived Caprylyl Glycol, A-Leen 8.

E-LEEN BLENDS: A COMPLIMENTARY EXTENSION OF OUR PURE NATURAL PRODUCTS

Minasolve has developed the E-Leen range, comprised of optimized mixtures of our bio-based pure ingredients. These COSMOS-approved blends allow our customers to increase the natural origin index of their products and are a cost-effective way to protect natural and eco-certified personal care formulations.

From fields to cosmetics

Eco-responsible innovation for sustainable cosmetics

NEW Hydra-Leen and Flora-Leen: stabilized hydrolats and eco-designed extracts

From the start, Minasolve has been driven by its motto "Green Solving Attitude" which implies our goal to contribute to a better world based on greener solutions for the cosmetic industry.

When we develop new ingredients, we use two main options for our starting raw materials:

- Biomass which is derived from waste byproduct sources such as sugar cane bagasse,
- Botanicals based on a transparent and well-established supply chain.

For those raw materials, it is key for Minasolve to validate the following points:

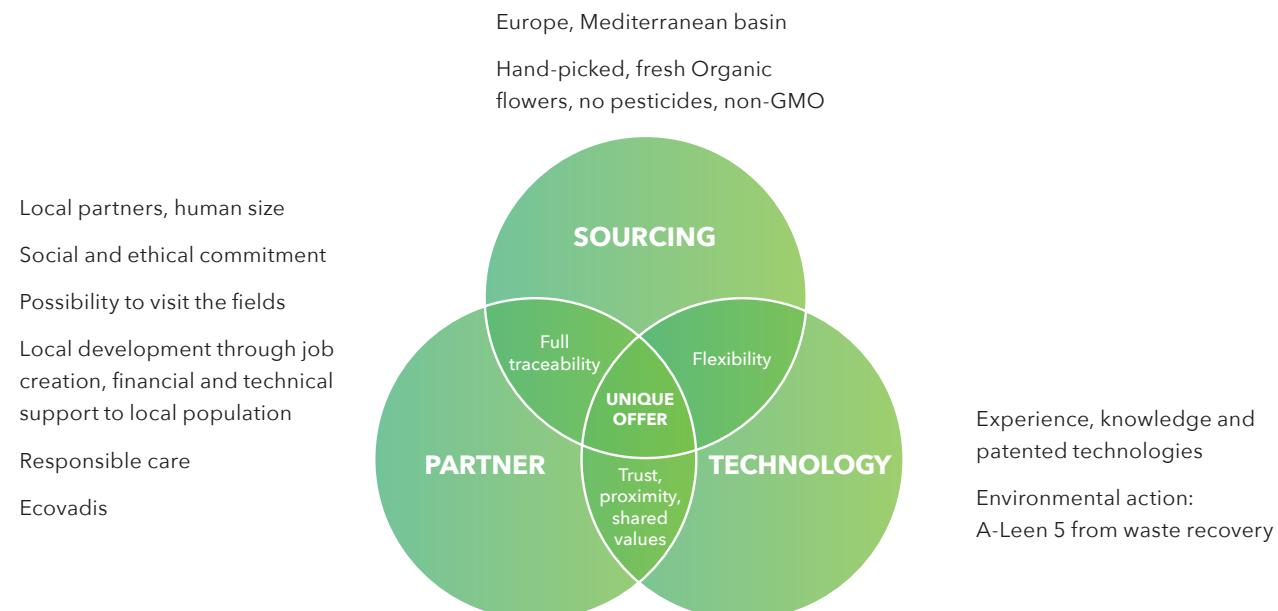
- ✓ we use biomass waste byproduct that does not compete with human or animal food chains.
- ✓ we use botanicals based on organic crop.
- ✓ we secure multiple biomass sources to supply the market's demand.
- ✓ we consult with local communities to minimize our carbon footprint.
- ✓ we provide a social contribution for farmers when possible.

We are aware that those criteria are clearly a constraint for our new product development. Nevertheless, it is important to embrace change if we want to preserve our planet. In addition, there are many global partnerships that can be investigated using our COSMOS approved extraction solvents.

The Mediterranean basin offers Minasolve a wide variety of raw materials and available lands while our initiatives in these regions contribute back to the local farmers' livelihood.

Through transparent and reliable partnerships with trustworthy local entities, Minasolve offers unique solutions with full control of our supply chain from sourcing to production and quality assurance.

Our Garden Project is based on three pillars:



Hydra-Leen

First range of hydrolats stabilized with bio-based diols, fully natural and traceable :



This new patent pending technology leads to 6 stabilized hydrolats:

Hydra-Leen 8 Neroli



- ✓ Soothing
- ✓ Perfuming
- ✓ Antibacterial

Hydra-Leen 5/8 Rose



- ✓ Soothing
- ✓ Perfuming
- ✓ Antioxidant

Hydra-Leen 8 Cedar



- ✓ Tonic
- ✓ Purifier
- ✓ Perfuming

Hydra-Leen 8 Lavender BIO



- ✓ Soothing
- ✓ Cleansing
- ✓ Fresh Breath

Hydra-Leen 8 Camomile BIO



- ✓ Regenerative
- ✓ Soothing

Flora-Leen

Flora-Leen is the first range of extracts with a production fully back integrated from the seed to the final extract including the solvent. Designed via a patent pending eco-extraction process based on our A-Leen 5 made from waste recovery, we developed a first extract Flora-Leen Cistus combining performances and sustainable production:

- Cistus ladanifer : Originally from the Mediterranean basin
- Grows easily in dry climates - withstands droughts
- Defends itself against hostile environment
- Composition
 - ✓ Rich in polyphenols
 - ✓ Main component : Ellagitannin, Ellagic acid and Gallic acid



Flora-Leen Cistus



- ✓ Anti bacterial
- ✓ Anti ageing
- ✓ Moisturizer
- ✓ Antioxidant
- ✓ Soothing
- ✓ Anti-pollution

NEW 2023

NEW 2022

Sensofeel MFC

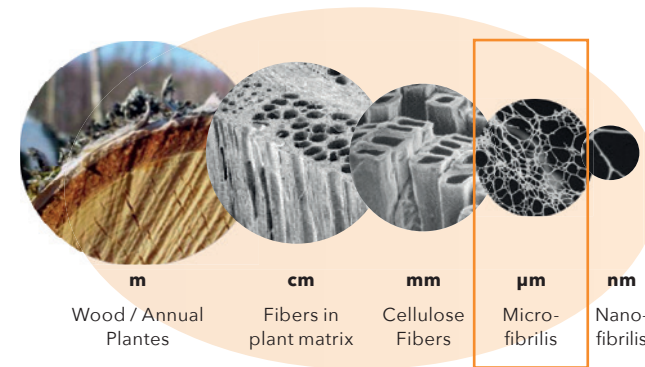
Multifunctional & Sustainable Microfibrillated Cellulose

Minasolve is pleased to announce a new partnership with the Swiss Weidmann Group. The partnership is aimed at the joint development of cosmetic ingredients based on Microfibrillated Cellulose (MFC).

Weidmann is a globally operating, family-owned company and has been leading its core business based on cellulose products for more than 140 years.

Together, Weidmann and Minasolve are committed to taking natural cosmetics to the next level. We are convinced that natural formulations are as attractive and high-performing as conventional formulations. Our green technology is helping to pave the way for modern and environmentally friendly cosmetics.

MFC is manufactured using a patented process that subjects natural cellulose fibers to mechanical shearing. This breaks up the originally linear fibers into a three-dimensional network and increases the surface area per volume by a factor of about 1000.



Based on Weidmann's unique MFC technology, Minasolve introduces the new Sensofeel product line. It enables formulators to develop natural cosmetics with high sensory appeal:

- ▶ O/W emulsions acquire a **rich texture** with a **velvety touch** and reduced oiliness
- ▶ **Emulsions become whiter** without added pigments such as titanium dioxide
- ▶ Make-up formulations with **colored pigments** obtain a **higher coverage**
- ▶ Surfactants yield a more **stable foam** with **high volume** and **creamy texture**



Three variants for different applications:

A-Sensofeel MFC

INCI: Cellulose, Glycerin, Water

- ▶ Highly concentrated powder form – for maximum flexibility
- ▶ Particularly suitable for O/W emulsions and dry powder formulations
- ▶ Requires a high shear mixing step to activate full performance
- ▶ Typical use level: 0.2 - 4 %

E-Sensofeel MFC 5 & E-Sensofeel MFC 8

INCI: Water, Pentylene Glycol, Cellulose, Xanthan Gum

- ▶ Ready to use gels – for easier formulation
- ▶ For O/W emulsions and surfactant products (shampoo, shower gel, hand wash, ...)
- ▶ Can also be incorporated into formulations without high shear mixing
- ▶ Typical use level: 3 - 20 %

INCI: Water, Glycerin, Cellulose, Caprylyl Glycol, Xanthan Gum

MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

In partnership with

WEIDMANN

NEW 2022

A-Leen 8

Pioneering bio-based Caprylyl Glycol



Minasolve is now offering A-Leen 8, a pioneering bio-based version of Caprylyl Glycol.

It is manufactured from sustainably sourced vegetable oils by means of green chemistry :



A-Leen 8 enhances the naturalness of formulations and enables the use of an established and well-known technology also in eco-certified products.

The moisturizing, solubilizing and antimicrobial properties of our novel bio-based Caprylyl Glycol are identical to the well-known standard grade derived from petrochemical sources.

E-Leen 8 / E-Leen P8 / E-Leen GC 8

Efficient natural solutions for self-preserving cosmetics

Based on our latest bio-ingredient, we have added three COSMOS- and Natrue-approved solutions to our E-Leen range:

E-Leen 8

INCI: Caprylyl Glycol, Glycerin, Water

E-Leen 8 is our nature derived Caprylyl Glycol in a convenient to handle form. E-Leen 8 contains 75% bio-based Caprylyl Glycol and remains liquid at ambient temperature. Time-consuming melting of Caprylyl Glycol is thus avoided, which significantly improves productivity.

E-Leen P8

INCI: Caprylyl Glycol, Phenylpropanol, Water

E-Leen P8 combines bio-based Caprylyl Glycol with our natural aroma-ingredient A-Leen Aroma-3. This powerful combination enables reliable protection of formulations against contamination by yeasts, moulds and bacteria. E-Leen P8 is compatible with high and low pH levels and effective at low use-levels.

E-Leen GC 8

INCI: Caprylyl Glycol, Glyceryl Caprylate/Caprate, Glycerin

E-Leen GC 8 is the mild alternative for sensitive skin. It combines the power of bio-based Caprylyl Glycol with the care properties of the natural refatting agent Glyceryl Caprylate/Caprate and the natural humectant Glycerin. The optimized composition of E-Leen GC 8 makes it particularly stable and easy to use.

Minasolve smart mixtures

Minasolve has developped a range of clever mixtures based on diols in order to provide ready to use, optimized and highly efficient solutions

Each of our blends is optimised to create self-preserving formulations. They share these common characteristics:

- **Stable and easy to use liquids** - for higher productivity and safer handling.
- **Synergistic combinations** - for lower use-levels and milder products, at lower cost.
- **Standalone efficacy** - for perfect protection against microbial contamination.
- **Reduced procurement complexity** and **simplified inventory management**.

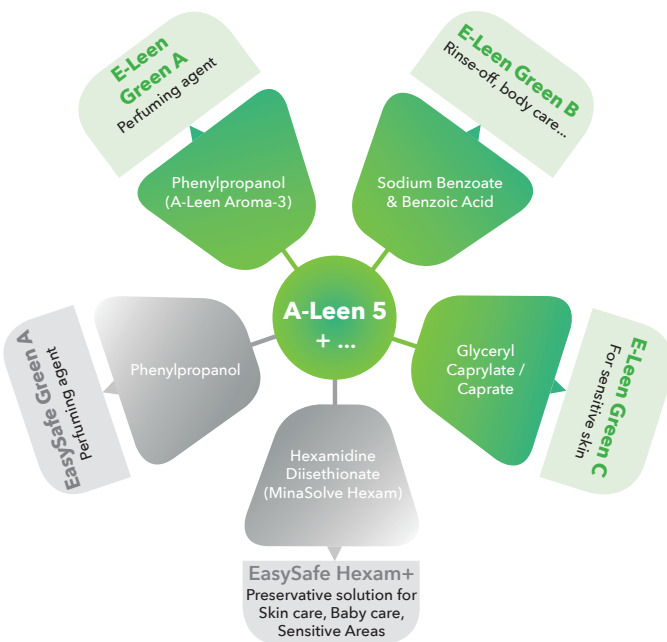
Two different product lines - covering all market segments:

The E-Leen Range: nature-derived and COSMOS approved, for safe and easy protection of natural cosmetics

The EasySafe Range: cost-optimized and outstandingly performant synergistic compositions, for high efficacy and easy application

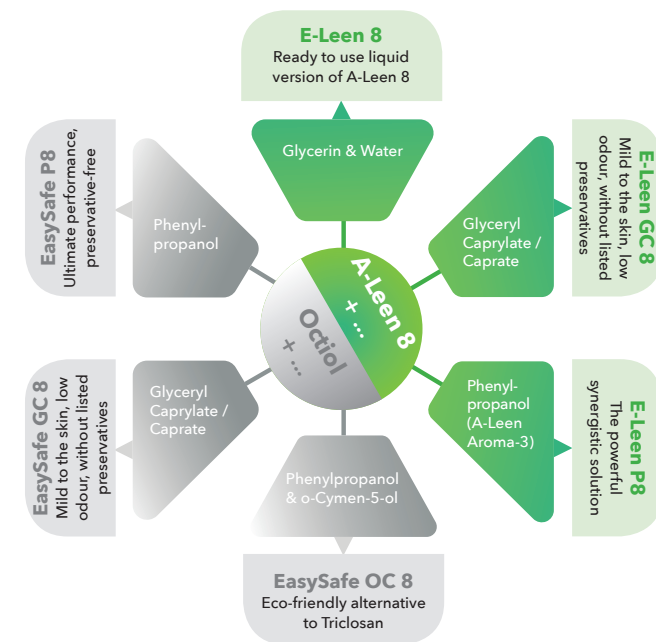
Smart mixtures based on Bio-Based Pentylene Glycol:

- hydrophilic - water soluble
- multifunctional - 2-3% use-level
- for any kind of high-value formulation



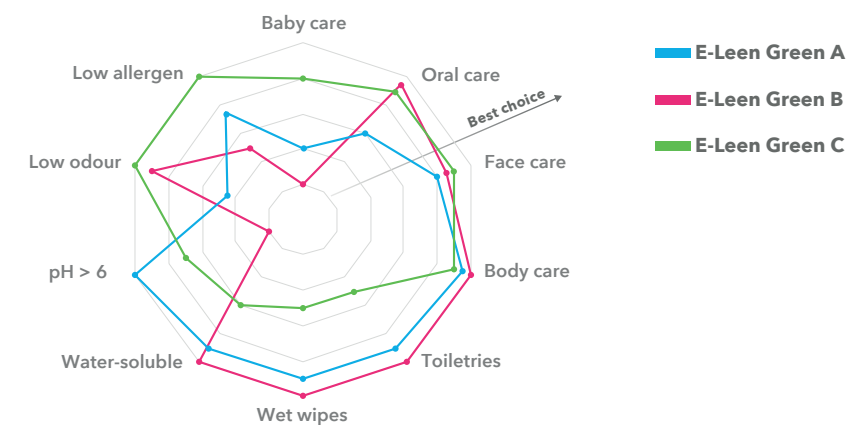
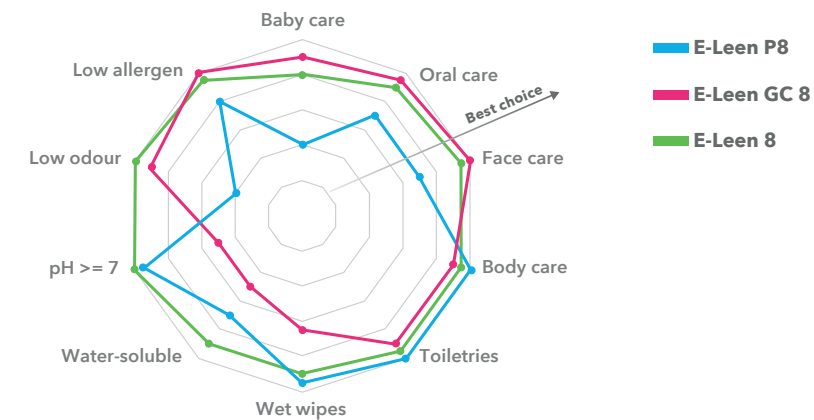
Smart mixtures based on Bio-Based Caprylyl Glycol or Standard Caprylyl Glycol:

- lipophilic
- low use level - cost effective
- for O/W emulsions, wet wipes, mists ...

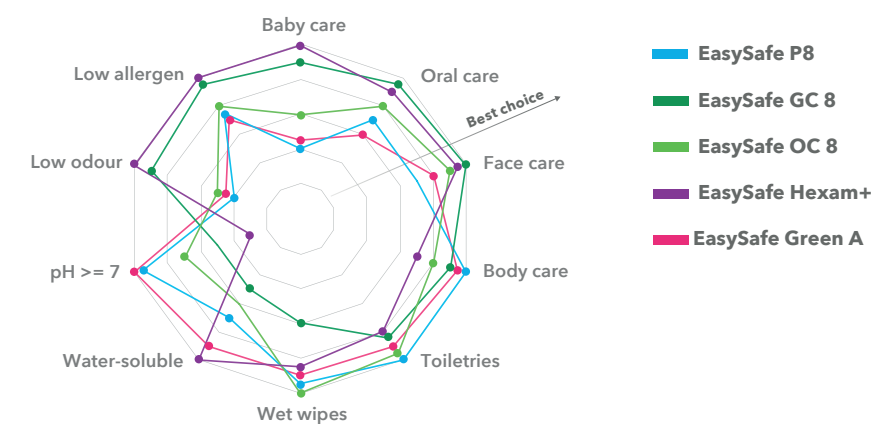


Depending on your development project or key criteria, you can use the simple selection tools developed by Minasolve in order to select the best candidate which fits your needs or constraints

E-Leen selectors



EasySafe selector



Formula Protection

A-Leen, E-Leen, EasySafe and Boosters/Preservatives

	INCI	ORIGIN	ECOCERT APPROVED	COSMOS APPROVED	NATRUE APPROVED	NATURAL ORIGIN INDEX*	REGULATORY STATUS	DESCRIPTION	FORM/ODOUR	ANTIMICROBIAL ACTIVITY	pH RANGE	RECOMMENDED USE LEVEL	FORMULATION GUIDELINES	
A-Leen: Pure Natural Ingredients, COSMOS and NATRUE approved														
PATENTED	A-Leen 5	Pentylene Glycol	Derived-natural	✓	✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Derived-natural emollient & moisturizer. Antimicrobial. Extraction solvent & solubilizer. Excipient for gelling agents.	Clear, colourless liquid Odourless	Bacteria, Yeast and Mold (Booster)	unlimited	0.5 ▶ 5.0%	For optimum efficacy of preservation, it should be added to emulsions at the post-emulsification stage.
	A-Leen 8	Caprylyl Glycol	Derived-natural		✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Emollient & moisturizer	White waxy solid or clear colourless liquid, Faint characteristic	Bacteria, Yeast and Mold	unlimited	0.1 ▶ 1.0%	Should be molten at ≥ 40°C before use. Limited water solubility; can be dispersed in the aqueous phase
	A-Leen Aroma-3	Phenylpropanol	Derived-natural		✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Nature-derived perfuming agent with pH-independent antimicrobial effect. Free of listed preservatives.	Clear, colourless liquid Characteristic odour	Bacteria, Yeast and Mold (Booster)	unlimited	0.5 ▶ 1.0%	Soluble in water up to 0.8%, miscible with alcohols and polar oils; should be added to emulsions at the post-emulsification stage for optimum anti-microbial efficacy.
E-Leen: Synergistic Green Solutions, COSMOS approved														
PATENTED	E-Leen Green A	Pentylene Glycol, Phenylpropanol	Derived-natural			✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Non ionic, free of listed preservatives and nature-derived antimicrobial blend. Contains A-Leen 5 and natural origin Phenylpropanol.	Clear, colourless liquid / Sweet, floral odour	Bacteria, Yeast and Mold	unlimited	1.0 ▶ 3.0%	Water soluble up to 3%. Suitable for cold and hot processes.
	E-Leen Green B	Pentylene Glycol, Water, Sodium Benzoate, Benzoic Acid	Derived-natural	✓	✓		0,88	Europe, USA, Canada, Australia, China, Japan, Korea	Anionic broad spectrum antimicrobial, ideal for low pH formulations. Contains A-Leen 5.	Clear, colourless liquid / Odourless or faint	Bacteria, Yeast and Mold	3.0 ▶ 6.0	1.0 ▶ 3.0% (max. 5%)	Water soluble. Suitable for cold and hot processes. The lower the pH, the stronger the activity.
	E-Leen Green C	Pentylene Glycol, Glyceryl Caprylate/Caprates	Derived-natural	✓	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Non ionic, free of listed preservatives antimicrobial blend. 100% nature-derived. Contains A-Leen 5.	Clear, colourless liquid / Odourless or faint	Bacteria, Yeast, Fung-istatic against Mold	4.0 ▶ 7.0	1.0 ▶ 3.0%	Dispersible in water. Suitable for cold and hot processes.
	E-Leen 8	Caprylyl Glycol, Glycerin, Water	Derived-natural		✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Bio-sourced and easy-to-use liquid version of Caprylyl Glycol, for self-preserving formulations, effective at any pH.	Clear, colourless liquid / faint odour	Bacteria, Yeast and Mold	unlimited	0.5 ▶ 2.0%	Stable liquid at >=15°C, soluble in water up to 1%, can be added at any stage of the formulation, preferably to the aqueous phase or after emulsification.
	E-Leen GC 8	Caprylyl Glycol (and) Glyceryl Caprylate/Caprates (and) Glycerin	Derived-natural		✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Nature-derived antimicrobial blend from bio-based Caprylyl Glycol - efficient, non-ionic and free of listed preservatives, for mild and low odour formulations.	Clear, colourless or slightly yellow liquid / Odourless or faint	Bacteria, Yeast and Mold	4.0 ▶ 7.0	0.75 ▶ 2.0%	Dispersible in water, can be added to the aqueous phase or after emulsification. The pH should be maintained at 4-7.
	E-Leen P8	Caprylyl Glycol, Phenylpropanol, Water	Derived-natural		✓	✓	1	Europe, USA, Canada, Australia, China, Japan, Korea	Nature-derived and cost-effective antimicrobial blend from bio-based Caprylyl Glycol, non-ionic and free of listed preservatives, suitable also for high pH, easy to use.	Clear, colourless or slightly coloured liquid / faint aromatic odour	Bacteria, Yeast and Mold	unlimited	0.5 ▶ 2.0%	Soluble in water up to 1%, can be added at any stage of the formulation, preferably to the aqueous phase or after emulsification.
EasySafe: Optimized Performance Solutions														
PATENTED	EasySafe Green A	Pentylene Glycol, Phenylpropanol	Derived-natural				0,69	Europe, USA, Canada, Australia, China, Japan, Korea	Non ionic, free of listed preservatives antimicrobial blend. Contains A-Leen 5 and aromatic compound.	Clear, colourless liquid / Sweet, floral	Bacteria, Yeast and Mold	unlimited	1.0 ▶ 3.0%	Water soluble up to 3%. Suitable for cold and hot processes.
	EasySafe Hexam+	Pentylene Glycol, Water, Hexamidine Diisethionate	Derived-Natural				0,95	Europe, USA, Canada, Australia, China, Korea	Boosted liquid form of MinaSolve Hexam with A-Leen 5. Cationic antimicrobial blend with skin moisturising properties. For sensitive skin & baby applications.	Clear, colourless liquid / Odourless or faint	Bacteria, Yeast and Mold	3.5 ▶ 6.0	0.2 ▶ 2.0%	Water soluble. Suitable for cold and hot processes. Can be added at any stage of the formulation, as long as the product is kept at pH 3.5 ▶ 6.0.
	EasySafe 8	Caprylyl Glycol, Glycerin, Water	Non-Natural				0,11	Europe, USA, Canada, Australia, China, Japan, Korea	Easy-to-use liquid version of Caprylyl Glycol, for self-preserving formulations, effective at any pH.	Clear, colourless liquid / faint odour	Bacteria, Yeast and Mold	unlimited	0.5 ▶ 2.0%	Stable liquid at >=15°C, soluble in water up to 1%, can be added at any stage of the formulation, preferably to the aqueous phase or after emulsification.
	EasySafe GC 8	Caprylyl Glycol, Glyceryl Caprylate/Caprates, Glycerin	Derived-natural				0,60	Europe, USA, Canada, Australia, China, Japan, Korea	Nature-derived antimicrobial blend - efficient, non-ionic and free of listed preservatives, for mild and low odour formulations.	Clear, colourless or slightly yellow liquid / Odourless or faint	Bacteria, Yeast and Mold	4.0 ▶ 7.0	0.75 ▶ 2.0%	Dispersible in water, can be added to the aqueous phase or after emulsification. The pH should be maintained at 4-7.
	EasySafe OC 8	Caprylyl Glycol, Phenylpropanol, o-Cymen-5-ol, Water	Non-Natural				0	Europe, USA, Canada, Australia, China, Japan, Korea	Preservative blend, boosting the effect of o-Cymen-5-ol, easy to use liquid, bio-degradable alternative to Triclosan.	Clear, colourless liquid / faint aromatic odour	Bacteria, Yeast and Mold	3.0 ▶ 8.0	0.5 ▶ max. 1.4%	Can be added to aqueous phases containing surfactants, or at the end, e.g. after emulsification.
	EasySafe P8	Caprylyl Glycol, Phenylpropanol, Water	Non-Natural				0	Europe, USA, Canada, Australia, China, Japan, Korea	Cost-effective antimicrobial blend based on Octiol, non-ionic and free of listed preservatives, suitable also for high pH, easy to use.	Clear, colourless liquid/ faint aromatic odour	Bacteria, Yeast and Mold	unlimited	0.5 ▶ 2.0%	Soluble in water up to 1%. Can be added at any stage of the formulation, preferably to the aqueous phase or after emulsification.
Booster/Preservatives, Multifunctional Ingredients														
	Caprocine	Capryloyl Glycine	Derived-natural				0,80	Europe, USA, Canada, Australia, China, Japan, Korea	Anionic multifunctional ingredient with antimicrobial properties.	White crystalline powder	Bacteria and Mold (weak on C. albicans)	3.0 ▶ 7.0	0.5 ▶ 2.0%	Dissolve in hot water or in cold alkaline water (pH > 7.0).
	MinaSolve CapEasy	Water, Capryloyl Glycine, Sodium Bicarbonate	Derived-natural				0,80	Europe, USA, Canada, Australia, China, Japan, Korea	Self preserved, aqueous solution of Caprocine (~30% a.i.). Multifunctional with antimicrobial properties.	Clear, colourless liquid / Odourless or faint	Bacteria and Mold (weak on C. albicans)	3.0 ▶ 7.0	1.5 ▶ 7.0%	Can be added at any stage of the formulation. No heating, premixing, or pH-adjustment is needed for dissolution.
	MinaSolve Hexam	Hexamidine Diisethionate	Non-Natural				0	Europe, USA, Canada, Australia, China, Korea	Cationic, mild antimicrobial & antiseptic. Recommended for sensitive skin & suitable for baby applications.	White or slightly yellow powder	Bacteria, Yeast and Mold	3.5 ▶ 6.0	0.01 ▶ 0.1%	Dissolve into the water phase, or make a premix in water or a diol. Keep the pH of the product at 3.5 ▶ 6.0.
	Octiol	Caprylyl Glycol	Non-Natural				0	Europe, USA, Canada, Australia, China, Japan, Korea	Emollient & moisturizer.	Clear colourless liquid or low melting waxy solid	Bacteria, Yeast and Mold	unlimited	0.1 ▶ 1.0%	Should be molten at ≥40°C before use. Limited water solubility; can be dispersed in the aqueous phase.

* ISO 16128, calculation based on renewable carbon

Quick Decision Guide

What is the best Minasolve product to choose for your formulation’s protection?

Thanks to this quick decision guide, it’s easy to identify the perfect candidate according to the galenic form of your product, the pH range of your formulation, the origin of our solutions and your internal priorities.

Don’t hesitate to contact us to discuss your specific project.



YOUR CHALLENGE, OUR SOLUTIONS

		EMULSIONS		SINGLE PHASE PRODUCTS			pH RANGE								CHARACTERISTICS	
		O/W	W/O	WATER + HIGH AMOUNT OF SURFACTANT/SOLUBILIZER (E.G. SHOWER GEL, SHAMPOO)	WATER + LOW AMOUNT OF SURFACTANT/SOLUBILIZER (E.G. MICELLAR WATER)	WET WIPES	3.0	3.5	4.0	6.0	6.5	7.0	8.0	10.0	PALM-OIL FREE	LISTED PRESERVATIVE-FREE ⁽²⁾
PURE NATURAL PRODUCT	A-Leen 5	●	●	●	●	●	A-Leen 5								✓	✓
	A-Leen 8	●	●	●	●	●	A-Leen 8									✓
	A-Leen Aroma-3	●	●	●	●		A-Leen Aroma-3								✓	✓
HYDROPHILIC/MULTIFUNCTIONAL A-LEEN 5-BASED BLENDS	E-Leen Green A	●	●	●	●	●	E-Leen Green A								✓	✓
	E-Leen Green B	●	●	●	●	●	E-Leen Green B								✓	
	E-Leen Green C	●	●	●		●	E-Leen Green C									✓
	EasySafe Hexam+	●	●	●	●	●	EasySafe Hexam +								✓	
	EasySafe Green A	●	●	●	●	●	EasySafe Green A								✓	✓
LIPOPHILIC / POWERFUL A-LEEN 8 - OR OCTIOL-BASED BLENDS	E-Leen 8	●	●	●	●	●	E-Leen 8									✓
	E-Leen P8	●	●	●	●	●	E-Leen P8									✓
	E-Leen GC 8	●		●		●	E-Leen GC 8									✓
	EasySafe 8	●	●	●	●	●	EasySafe 8								✓	✓
	EasySafe P8	●	●	●	●	●	EasySafe P8								✓	✓
	EasySafe GC 8	●		●		●	EasySafe GC 8									✓
	EasySafe OC 8	●	●	●	● ⁽¹⁾	● ⁽¹⁾	EasySafe OC 8								✓	
BOOSTER / PRESERVATIVES	MinaSolve Hexam	●	●	●	●		MinaSolve Hexam								✓	
	Caprocine	●	●	●	●		Caprocine									✓
	MinaSolve CapEasy	●	●	●	●		MinaSolve CapEasy									✓
	Octiol	●	●	●	●	●	Octiol								✓	✓

● RECOMMENDED ● POSSIBLE, TO BE CHECKED INDIVIDUALLY

COSMOS APPROVED

DERIVED NATURAL

NON-NATURAL

(1) the concentration of EasySafe OC 8 should be kept below 0.8% to avoid any crystallization of o-Cymen-5-ol
(2) according to Annex V of the Cosmetic Regulation (EC) N° 1223/2009

Actives and Additives

Actives and Flora-Leen: For your skin care, hair care, make-up & toiletry products, to treat, purify, condition, soothe or refresh !

	INCI	ORIGIN	ECOCERT APPROVED	COSMOS APPROVED	NATRUE APPROVED	NATURAL ORIGIN INDEX*	REGULATORY STATUS	DESCRIPTION	FORM/ODOUR	pH RANGE	RECOMMENDED USE LEVEL	FORMULATION GUIDELINES	ANTIOXIDANT	ANTI-INFLAMMATORY	ANTI-SEBUM	DEODORANT	LIGHTENING	ANTI-DANDRUFF	ANTI-AGE	COOLING
ACTIVES																				
	Caprocine	Capryloyl Glycine	Derived Natural			0,80	Europe, USA, Canada, Australia, China, Japan, Korea	Anionic multifunctional ingredient with antimicrobial properties.	White crystalline powder	3.0 ▶ 7.0	0.5 ▶ 2.0%	Dissolve in hot water or in cold alkaline water (pH > 7.0).			✓	✓		✓		
	MinaSolve CapEasy	Water, Capryloyl Glycine, Sodium Bicarbonate	Derived Natural			0,80	Europe, USA, Canada, Australia, China, Japan, Korea	Self preserved, aqueous solution of Caprocine (~30% a.i.). Multifunctional with antimicrobial properties.	Clear, colourless liquid / Odourless or faint	3.0 ▶ 7.0	1.5 ▶ 7.0%	Can be added at any stage of the formulation. No heating, premixing, or pH-adjustment is needed for dissolution.			✓	✓		✓		
	Fresh'in	Methyl Diisopropyl Propionamide	Non-Natural			0	Europe, USA, Canada, Australia, China, Japan, Korea	Refreshing agent.	White crystalline powder / Fresh odour	Unlimited	0.04 ▶ 1.5% ⁽¹⁾	Add to the oil phase of the emulsion or solubilise in a diol or alcohol.								✓
PATENTED	Fresh'in Green+	Pentylene Glycol, Methyl Diisopropyl Propionamide	Derived Natural			0,55**	Europe, USA, Canada, Australia, China, Japan, Korea	Refreshing agent, easy to use liquid form.	Colourless liquid / Fresh odour	Unlimited	0.1 ▶ 2.5% ⁽²⁾	Add at any stage of the formulation, soluble/ dispersible in water.								✓
	MinaSolve Hexam	Hexamidine Diisethionate	Non-natural			0	Europe, USA, Canada, Australia, China, Korea	Cationic, mild antimicrobial & antiseptic. Recommended for sensitive skin & suitable for baby applications.	White or slightly yellow powder	3.5 ▶ 6.0	0.01 ▶ 0.1%	Dissolve into the water phase, or make a premix in water or a diol. Keep the pH of the product at 3.5- 6.0.						✓		
PATENTED	EasySafe Hexam+	Pentylene Glycol, Water, Hexamidine Diisethionate	Derived Natural			0.95	Europe, USA, Canada, Australia, China, Korea	Boosted liquid form of MinaSolve Hexam with A-Leen 5. Cationic antimicrobial blend with skin moisturising properties. For sensitive skin & baby applications.	Clear, colourless liquid / Odourless or faint	3.5 ▶ 6.0	0.2 ▶ 2.0%	Water soluble. Suitable for cold and hot processes. Can be added at any stage of the formulation, as long as the product is kept at pH 3.5 ▶ 6.0.						✓		
	Resve	Resveratrol	Natural (Japanese knotweed / min. 98%)	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Multifunctional ingredient.	Off-white to beige powder	3.0 ▶ 7.0	0.1 ▶ 1.0%	Can be added to the water or oil phase, preferably under hot conditions and before emulsification. In case of solubility issues, a premix with an alkane-diol is recommended.	✓	✓	✓		✓		✓	
Flora-Leen: multifunctional active complex																				
	Flora-Leen Cistus NEW 2022	Water, Pentylene Glycol, Cistus Ladaniferus Leaf/Stem Extract, Ascorbic acid	Derived Natural	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Multifunctional extract rich in polyphenols with antimicrobial and antioxidant properties. Produced according to our patented process.	Brown liquid with characteristic odour	3.0 ▶ 6.0	0.5 ▶ 3.0%	Preferably added at the end of the process at < 40°C. Acidic pH value avoids discoloration.	✓	✓			✓		✓	

Sensofeel MFC: To improve the sensory characteristics of your natural formulations

Sensofeel MFC: multifunctional & sustainable microfibrillated cellulose																				
	A-Sensofeel MFC NEW 2022	Cellulose, Glycerin, Water	Derived Natural	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Highly concentrated powder form for maximum flexibility. Particularly suitable for O/W emulsions and dry powder formulations.	White to off-white powder	4.0 ▶ 12.0	0.2 ▶ 4.0%	Requires a high shear mixing step to activate full performance.								
	E-Sensofeel MFC 5 NEW 2022	Water, Pentylene Glycol, Cellulose, Xanthan Gum	Derived Natural	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Ready to use gel for easy application. For O/W emulsions and surfactant products (shampoo, shower gel, hand wash, ...).	Opaque gel	4.0 ▶ 12.0	3.0 ▶ 20.0%	Can be incorporated also without high shear mixing.								
	E-Sensofeel MFC 8 NEW 2022	Water, Glycerin, Cellulose, Caprylyl Glycol, Xanthan Gum	Derived Natural	✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Ready to use gel for easy application. For O/W emulsions and surfactant products (shampoo, shower gel, hand wash, ...).	Opaque gel	4.0 ▶ 12.0	3.0 ▶ 20.0%	Can be incorporated also without high shear mixing.								

(1) Max recommended use level for a leave-on body application: 0.04%

(2) Max recommended use level for a leave-on body application: 0.1%

* ISO 16128, calculation based on renewable carbon

** Based on molecular mass



Stabilized Hydrolats with Bio-based Diols

Hydra-Leen

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.

Hydra-Leen is our range of storage stable hydrolats and represents an ideal solution for the perfuming of natural cosmetic formulations.



											HAIR CARE					SKIN CARE						SKIN TYPE					
	PLANT PART	INCI	ORIGIN	COSMOS APPROVED	COSMOS CERTIFIED	NATRUE APPROVED	NATURAL ORIGIN INDEX*	REGULATORY STATUS	FORM/ODOUR	FORMULATION GUIDELINES	TONIC	SHINE	PURIFYING	CALMING	LICE REPELLENT	PURIFYING	TONIC	CALMING	ANTISEPTIC	RADIANCE	ANTIOXIDANT	COOLING	OILY SKIN	DULL SKIN	SENSITIVE SKIN	PROBLEM SKIN	MATURE SKIN
Hydra-Leen: Stabilized hydrolats, the Natural Fragrance																											
<div>Hydra-Leen 8 Cedar</div> <div>CEDRUS ATLANTICA</div> <div></div>	Bark	Cedrus Atlantica Bark Water, Caprylyl Glycol, Glycerin, Water	Derived Natural	✓			1	Europe, USA, Canada, Australia, China, Japan, Korea	Clear, colourless or slightly coloured liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.	✓	✓	✓	✓	✓	✓	✓	✓					✓✓	✓	✓	✓	✓
<div>Hydra-Leen 8 Neroli**</div> <div>CITRUS AURANTIUM</div> <div></div>	Flower bud	Citrus Aurantium Amara (Bitter Orange) Flower Water, Caprylyl Glycol, Glycerin, Water	Derived Natural	✓			1	Europe, USA, Canada, Australia, China, Japan, Korea	Clear, light yellow liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.								✓	✓	✓			✓✓	✓✓	✓✓	✓✓	✓
<div>Hydra-Leen 8 Rose BIO</div> <div>ROSA DAMASCENA</div> <div></div>	Petal and Flower	Rosa Damascena Flower Water, Caprylyl Glycol, Glycerin, Water	Derived Natural		✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Clear, colourless or slightly coloured liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.							✓	✓			✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓
<div>Hydra-Leen 5 Rose**</div> <div>ROSA DAMASCENA</div> <div></div>	Petal and Flower	Rosa Damascena Flower Water, Pentylene Glycol	Derived Natural	✓			1	Europe, USA, Canada, Australia, China, Japan, Korea	Clear, colourless or slightly coloured liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.							✓	✓			✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓
<div>Hydra-Leen 8 Lavender BIO</div> <div>LAVANDULA ANGUSTIFOLIA</div> <div><div>NEW 2023</div><div></div></div>	Flower	Lavandula Angustifolia (Lavender) Flower Water, Caprylyl Glycol, Glycerin, Water	Derived natural		✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Colourless or slightly coloured liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.					✓	✓	✓	✓✓					✓	✓	✓	✓✓	✓✓
<div>Hydra-Leen 8 Camomile BIO</div> <div>ANTHEMIS NOBILIS</div> <div><div>NEW 2023</div><div></div></div>	Flower	Anthemis Nobilis Flower Water, Caprylyl Glycol, Glycerin, Water	Derived natural		✓		1	Europe, USA, Canada, Australia, China, Japan, Korea	Colourless or slightly coloured liquid, pleasant and characteristic odour	Soluble in water, can be used up to 100% for the perfuming of natural cosmetic formulation. Preferably added at the end of the formulation at room temperature.		✓		✓			✓	✓			✓		✓	✓	✓✓	✓✓	✓✓

* ISO 16128, calculation based on renewable carbon

** Also available in COSMOS Certified versions under the following names: Hydra-Leen 5 Rose BIO and Hydra-Leen 8 Neroli BIO

A-Leen Aroma-3

Universal solution for natural antimicrobial protection over a large pH range

There is a general and steadily growing demand from consumers for safe, mild and nature-based cosmetics. These products should be self-preserved, as well as free of harsh preservatives and allergens. Minasolve offers a new solution to protect these kinds of modern formulations:

A leen Aroma-3

INCI: Phenylpropanol

A-Leen Aroma-3 is a 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 protect all kinds of cosmetic products against microbial degradation. This activity is largely pH-independent.

A-Leen Aroma-3 is produced as follow :



The given information is accurate to the best of our knowledge. Buyers are advised to make their own studies on the usefulness of any product for a particular application or purpose. Recommended usage information is only provided as indication, and should not be considered as recommendations to use the products in violation of any patents, intellectual property rights, laws, or regulations relating, but not limited to, manufacture, composition, product design or end usage.



MINASOLVE Solutions

Formulation aKademy

A new concept based on collaboration and cooperation.

Minasolve has developed innovation, extraction, and formulation labs at our headquarters in Louvain-la-Neuve.

Innovation lab:

The innovation lab is fully dedicated to the development of new ingredients following the principles of Green Chemistry. This lab already has a track record of biobased innovations including:

- Biobased Pentylene Glycol
- Biobased Phenylpropanol
- Biobased Caprylyl Glycol
- Cellulose-based ingredients
- Flora Leen: active ingredients based on botanical extracts

Minasolve will continue to launch many new biobased products from preservatives to actives and bring innovative solutions to our customers. While doing so, our intention is to also contribute to social awareness projects that bring real support to neighboring regions, such as North Africa. We are proud to mention that we're part of the UNESCO chair in collaboration with the University of Avignon. The commitment of Minasolve to contribute to a better world will not be solely limited to the development of new products but is also aligned with our motto "Green Solving Attitude".

Extraction lab:

Minasolve has been involved in the development of unique botanical extracts since 2021 and currently provides technical support to customers developing formulations based on our patented extraction technology. In the near future, we will have a fully equipped lab dedicated to extraction.

Formulation lab:

The formulation lab is highly important as its main task is to use and test all the biobased ingredients developed by R&D. It's the best way to prove the true efficacy of the ingredients and to provide helpful support and guidance to our customers on their development projects.

Our formulation lab also organizes trainee sessions for customer formulators. The close collaboration between Minasolve R&D and each formulator is an excellent way to share ideas and helps us understand the use of our innovations in different types of formulations as well as guides us toward the development of future innovative ingredients and technologies.

Sharing our mutual experiences and expertise is key for us. We really believe that our Formulation aKademy concept will help Minasolve become a better provider of innovative solutions for our customers.

Don't hesitate to contact and to visit us, we'll be pleased to share our knowledge and learn from you.



MINASOLVE social commitment through our partnership with work-adapted companies



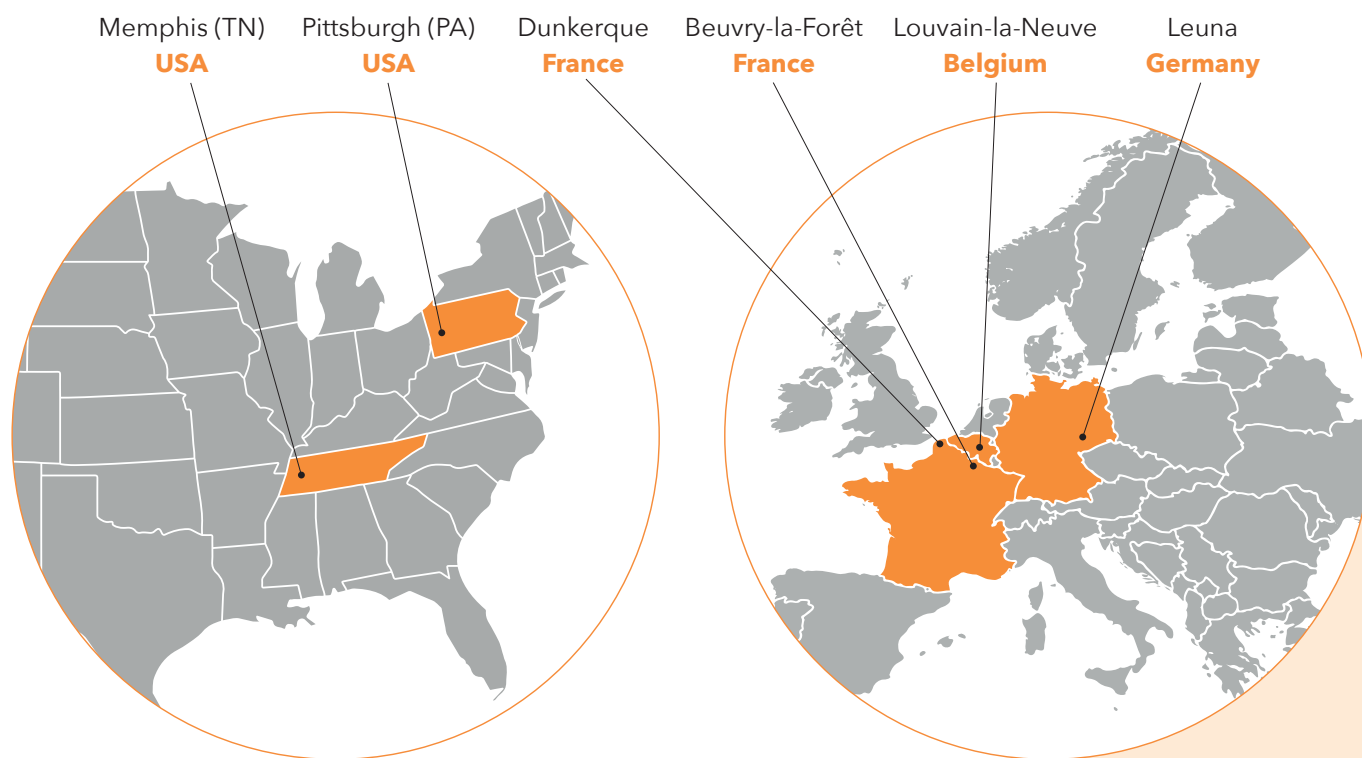
- MINASOLVE gives great importance to social commitment through its support of companies that employ disabled workers.
- MINASOLVE has subcontracted the filling, labelling, and packaging of samples to ETA d'Enghien.
- The mission of ETA d'Enghien is to offer less able-bodied people (90% of the +100 employees) long-term employment opportunities in a work environment adapted to their needs.

MINASOLVE® is an affiliate of MINAFIN® Group

Created in 2004, The **MINAFIN® Group** is an expert in Health Chemistry, Green Chemistry and Challenging Chemistry. 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, PENNAKEM, PRESSURE CHEMICAL and MINASCENT.

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**



235
M€ SALES



900+
EMPLOYEES



91
SCIENTISTS



6
PRODUCTION
SITES

MINAFIN®
GROUP

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