MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

Technical Data Sheet
March 2020 – V4

Fresh'in Green+

Fresh'in Green+ is a **patented solution** of the crystalline **physiological cooling agent** "**Fresh'in**" in the nature-derived moisturizing solvent **A-Leen 5.**

Fresh'in Green+ simplifies the application of the cooling agent in cosmetic and personal care formulations. The favourable **refreshing** properties of the **liquid blend Fresh'in Green+** are identical with those of the solid cooling agent Fresh'in.

Fresh'in Green+ is **free of menthol-derivatives and other fragrance allergens.**

Fresh'in Green+ can be used for **cold processing** and hot processing (max. 130 °C).

Fresh'in Green+ is suitable for **versatile fields of application**, as illustrated by the following **guidance formulations** (samples and recipes are available upon request):

- **Tonic! Water**
- **Stand up! Clean up! 3-in-1 gel**

Functions

- Cooling agent
- Alternative to Menthol
- Long-lasting refreshing sensation
- Skin humectant
- Emollient

Applications

- Skin Care
- Oral Care
- Make-up
- Perfumes / Toiletries
- Men care / intimate care / teenager cosmetics

Specifications and characteristics

INCI names	Pentylene Glycol (and) Methyl Diisopropyl Propionamide
CAS reg. N°	5343-92-0; 51115-67-4
Appearance	Clear, colourless liquid
Odour	Fresh
Water content	Max. 1.0 %
Density at 20 °C	0.95 – 0.96 g/ml
Refractive index	n_D^{20} = 1.449 – 1.453
Recommended use level	0.1 to 2.5 % (max. 0.1 % for leave-on body care applications)
Regulatory status	Globally approved, safety and regulatory data available upon request
Origin, ISO 16128	Derived Natural Naturality origin index. 0.553 (based on molecular mass) Contains 43 % renewable carbon
Chemical structures:	

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.

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Performance

A comparative consumer test of **Fresh'in** vs. L-Menthol was carried out on a mixed population of 66 volunteers, aged 19 to 50. Both cooling agents were applied in a hydrogel at concentrations of 0.5 %. The following criteria were investigated:

Conclusion of the study:

- 2 out of 3 consumers prefered the cooling effect of **Fresh'in** over that of Menthol.

Cooling characteristics:

- Delayed cooling action
- Progressive refreshed feeling
- Long lasting cooling effect

Organoleptic properties:

- Displays a mild and pleasant fresh odour, no camphor-like odour.

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Formulation Guidelines

Thanks to its liquid form, **Fresh'in Green+** is easy to formulate with. The ingredient can be added during the formulation process at any time and any temperature between -20°C and +130°C. It is suitable for various kinds of products, such as emulsions, surfactant-based products and micellar waters. For applications in pure water we recommend to use max. 0.5 % of **Fresh'in Green+** in order to obtain a clear and stable solution.

The most effective cooling sensation is usually obtained when incorporating **Fresh'in Green+** into aqueous mixtures, such as hydrogels or micellar waters. The cooling effect in lipophilic phases is typically less pronounced. However, the cooling effect will largely depend on the area of application. The most sensitive areas are generally the face and the lips, as well as intimate zones. Incorporation of **Fresh'in Green+** e.g. into a lipstick will therefore provide a longlasting cooling sensation, even if the formulation is water-free.

Solubility in cosmetic solvents

Bibliography

- Donald E. Pszczola, "Flavor Enhancement: Taking the Mask Off", *Food technology* **2004**, vol. 58, N°8, 56-69.

- John C. Leffingwell, "Cooling Ingredients and Their Mechanism of Action", *Handbook of Cosmetic Science and Technology,* 3rd ed., André O. Barel, Marc Paye, Howard I. Maibach, Eds., Informa Healthcare (Pub.), New York, **2009**, pp. 661-675.

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