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

Specifications and Characteristics

**FRESH’IN**

**INCI**  Methyl Diisopropyl Propionamide  
**CAS REG. N°**  51115-67-4  
**APPEARANCE**  White solid  
**ODOUR**  Fresh  
**PURITY**  Min. 99.0 %  
**SOLUBILITY**  Alcohol, 1,2-alkanediols, cosmetic esters and ethers like Dicaprylyl Ether, Caprylic/Capric Triglyceride...

**RECOMMENDED USE LEVEL**  0.04 • 1.5 % (max. 0.04% for leave-on body care applications)

**REGULATORY STATUS**  Globally approved  
**ORIGIN**  Non-natural (petrochemical)

**CHEMICAL STRUCTURE**

FRESH’IN GREEN +

**INCI**  Pentylene Glycol (and) Methyl Diisopropyl Propionamide  
**CAS REG. N°**  5343-92-0; 51115-67-4  
**APPEARANCE**  Clear, colourless liquid  
**ODOUR**  Fresh  
**SOLUBILITY**  Alcohol, 1,2-alkanediols, water, cosmetic esters and ethers like Dicaprylyl Ether, Caprylic/Capric Triglyceride...

**RECOMMENDED USE LEVEL**  0.1 • 2.5 % (max. 0.1 % for leave-on body care applications)

**REGULATORY STATUS**  Globally approved  
**ORIGIN**  Derived-natural  
**NATURALITY INDEX**  0.55, Contains 43 % renewable carbon

**CHEMICAL STRUCTURE**

Allergen-free Cooling Agents

**FRESH’IN**

- Safe alternative to Menthol
- Long-lasting cooling effect

**FRESH’IN GREEN +**

- Ready to use liquid
- Dispersible in water

MINASOLVE® VSA INGREDIENTS FOR YOUR APPLICATIONS

green solving attitude.

WWW.MINASOLVE.COM
**Fresh’in** is a powerful refreshing agent and a safe alternative to menthol.

Menthol is used since a long time as physiological cooling agent. However, it has several drawbacks: It tends to crystallize and to sublime, has an odour that is difficult to mask, and is a listed fragrance allergen.

**Fresh’in** avoids all major drawbacks of Menthol:
- **Fresh’in** provides a long-lasting cooling sensation.
- **Fresh’in** is a non-volatile solid of faintly fresh odour without any camphor note.
- **Fresh’in** is not derived from Menthol and can be regarded as free of allergens.

Depending on the concentration and area of use, the cooling effect of **Fresh’in** can range from a subtle freshness to a powerful chilling.

**Fresh’in** is recommended for applications in skin care, oral care, toiletries, make-up, and perfumes.

**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:

- Delay of the cooling effect
- Intensity of the cooling effect
- Duration of the cooling effect
- Volunteers preference

![Graph showing the performance of Fresh’in vs. L-Menthol](image)

In summary, the panelists preferred the progressive, long-lasting, and pleasant cooling effect of **Fresh’in** over menthol.

**Fresh’in** is a powder and therefore needs to be solubilised. The solubilisation can be carried out in solvents like 1,2-alkanediols or lower alcohols before incorporation into the formulation. In the case of emulsions **Fresh’in** can also be melted or mixed with the lipophilic phase.

**Fresh’in Green+** is a ready-to-use and patented solution of the solid cooling agent **Fresh’in** in the nature-derived skin humectant A-Leen 5. The liquid **Fresh’in Green+** has the same refreshing properties as the solid **Fresh’in**.

- **Fresh’in Green+** simplifies the application of the cooling agent in cosmetic and personal care formulations.
- **Fresh’in Green+** is free of menthol-derivatives and other fragrance allergens.
- **Fresh’in Green+** can be used during cold and hot processing (max. 130 °C).

**Fresh’in Green+** is suitable for emulsions, surfactant-based products and solutions. Nevertheless, for applications in pure water we recommend using max. 0.5% of **Fresh’in Green+** in order to obtain a clear and stable solution.

**Fresh’in Green+** is also suitable for skin care, oral care, toiletries, make-up, and perfumes.

**Guidance Formulation: Fresh Kiss Lipstick**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Ingredients (INCI)</th>
<th>%</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>B</td>
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**Raw material suppliers:**
- [Lipo Chemicals](https://www.lipochemicals.com) (1)
- [Caesar & Loretz](https://www.caesarloetz.com) (2)
- [AAK](https://www.akm.com) (3)
- [Minasolve](https://www.minasolve.com) (4)

**Manufacturing Process:**
1) Mix ingredients from phase A while heating up to 75°C. Stir to homogenize
2) At 75°C, add phase B while stirring, then pour the mixture rapidly into a cold mould. Cool down at 5°C for at least 30 minutes

**Properties and stability:**
- Aspect: pink opaque solid
- Stable during 3 months at 8°C, 42°C and room temperature, as well as during centrifugation for 1hr at 20°C and 1500 g for at least 30 minutes