



A BETTER WAY TO FORMULATE

VERSAGEL®

VERSAGEL® MN

SILKY CONDITIONING GEL

Penreco's® Versagel technology is used in thousands of cosmetic, pharmaceutical and personal care products around the world. Our innovative patented system for thickening and gelling hydrocarbon materials offers an infinite number of customized rheological properties.

- Clear, colorless (does not discolor with age), hydrophobic, thermally reversible and without syneresis.
- Creates a film barrier for added moisturization, delivers superior stabilization and suspension properties.
- Available in multiple viscosity ranges and compatible with many common ingredients.
- Easier and safer than gels made using metal stearates or fumed silica.
- Provides enhanced fragrance retention and waterproofing properties.

For more than 100 years, Penreco has specialized in niche product blending to meet customer specific requirements. If you are interested in finding out more about the many attributes of our gelled technology, we can provide supporting clinical studies. Please contact your Penreco sales representative and our technical experts will be happy to find a solution that's right for you.

Let us show you a better way to formulate.

penreco®

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To request a sample, visit penreco.com.

VERSAGEL® MN

SILKY CONDITIONING GEL

The Versagel MN series of products are anhydrous clear gels that provide versatility and a distinctive, elegant feel. The polymer system provides lubricity and conditioning, while the ester base, isononyl isononanoate, offers non-greasy emolliency. Due to the polymer matrix in the gel, these materials enable fine particles, such as color pigments, to be readily suspended or dispersed with minimal settling and agglomeration. The Versagel MN products also exhibit good thermal and UV stability and silicone solubilization.

Depending on the application, the suggested use level may range from 5% to 60%. Versagel MN gels should be blended with the rest of the ingredients in the oil phase of the formulation, while the nonpolar or less polar ingredients are added to the gel first. The gels are compatible with most nonionic surfactants, cyclomethicone, phenyl trimethicone, and other synthetic and natural emollients.

APPLICATIONS

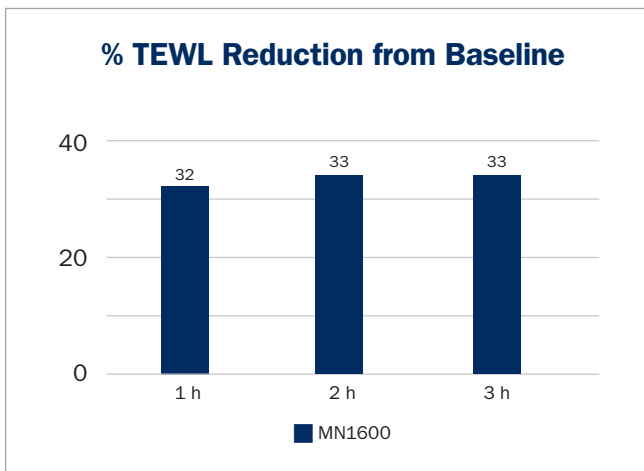
- Color Cosmetics: lipstick, lip polish, lip stain, lip gloss, lip balm, eye & brow shadow, bronzer, foundation
- Skin Care: face serums, depilatory cream, scrubs/exfoliators, texture and tone moisturizer
- Sun Care: sunblock/sunscreen

TYPICAL PROPERTIES

| | VISCOSITY @ 25 °C (cPs) | SPECIFIC GRAVITY @ 25 °C | SAYBOLT COLOR D-156 | FLASHPOINT °C ASTM D-92 |
|--|----------------------------|-----------------------------|------------------------|----------------------------|
| VERSAGEL MN (Isononyl Isononanoate) | | | | |
| MN 750 | 105,000 | 0.92 | +25 | >205 |
| MN 1600 | 280,000 | 0.92 | +25 | >200 |

International Nomenclature of Cosmetic Ingredients (INCI):

Isononyl Isononanoate (and) Ethylene/Propylene/Styrene Copolymer (and) Butylene/Ethylene/Styrene Copolymer



The rapid and sustained moisturization improvement of Versagel MN results showed a >30% reduction in Transepidermal Water Loss (TEWL), an improvement from baseline statistically significant at $p \leq 0.05$



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