



A BETTER WAY TO FORMULATE

VERSAGEL®

VERSAGEL® P

HYDRATING AND PROTECTING GEL

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® P

HYDRATING AND PROTECTING GEL

The Versagel P products combine highly purified, USP-grade, white petrolatum with block copolymers to enhance the occlusivity that naturally accompanies all petrolatum products. Even though petrolatum is considered the best occlusive agent available, our studies indicate that gelled petrolatum outperforms ungelled petrolatum in reducing transepidermal water loss (TEWL). These Versagel P products also exhibit excellent thermal and UV stability, as well as a versatile chemical compatibility.

APPLICATIONS

- Color Cosmetics: lipstick, lip balm, lip gloss, illuminator, foundation, blush
- Skin Care: lotions, creams, balms, butters, moisturizers, scrubs/exfoliators, rash guard, body wash
- Hair Care: moisturizers, pomade, styling products, treatments
- Health Care: scar treatment, topicals, ointments, wound-healing products, pain relief
- Other: diapers and paper products

TYPICAL PROPERTIES

| | VISCOSITY @ 110 °C (cPs) | SPECIFIC GRAVITY @ 25 °C | SAYBOLT COLOR D-156 | FLASH POINT °C ASTM D-92 |
|--------------------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|
| VERSAGEL P (Petrolatum) | | | | |
| P 100 | 380 (typ) | 0.87 | Opaque (Lovi Bond <3.0y) | >260 |
| P 200 | 2,800 - 6,800 | 0.87 | Opaque (Lovi Bond <2.0y) | >260 |

International Nomenclature of Cosmetic Ingredients (INCI):

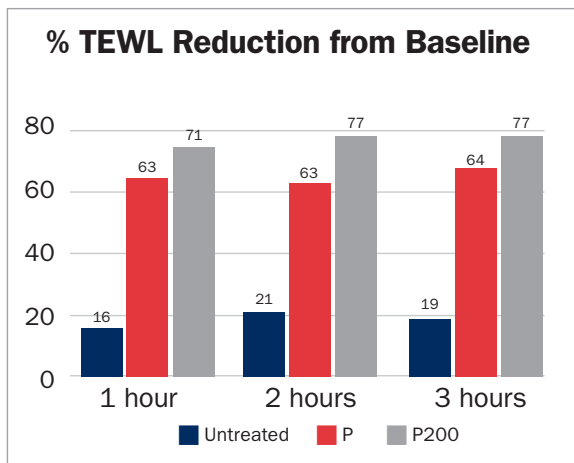
Petrolatum (and) Ethylene/Propylene/Styrene Copolymer (and) Butylene/Ethylene/Styrene Copolymer

Also available, Versagel P "EU" version which is Colipa compliant. Colipa compliance parameters:

Viscosity ≥ 11 cSt at 100 °C, Average molecular weight ≥ 500 and, Carbon number at the 5% boiling point ≥ 25

PETROLATUM AND VERSAGEL P200 SKIN BARRIER REPAIR STUDY

A clinical study was conducted using petrolatum and Versagel P on the volar forearms of test subjects with self-perceived dry skin. TEWL measurements (DermaLab) were taken at baseline 1 hour, 2 hours and 3 hours with re-application after each test. The study showed that petrolatum had over 60% decrease in Transepidermal Water Loss (TEWL) and Versagel P200 (gelled Petrolatum) had even higher TEWL at over 70% and both were much more efficacious than the untreated site. Thus, proving that petrolatum and Versagel P200 are highly-effective moisturizing ingredients for use in hand creams and lotions.



Study #C05-C055

Unlike conventional petrolatums that become very fluid in the temperature range of 50 – 60 °C, Versagel P products maintain some degree of consistency above 60 °C. These gelled petrolatum materials have a much broader melting temperature "slope." Versagel P gels are stiffer and have more adhesive properties than conventional petrolatums. These gels also provide film-forming benefits which can enhance the characteristics of several types of finished products.

Even though Versagel P products are made from white petrolatum, USP, the gels are not classified as USP products. All components are listed on US TSCA, Canadian DSL. One or more components are listed on EU EINECS, Japanese ENCS.



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