



A BETTER WAY TO FORMULATE

VERSAGEL®

## VERSAGEL® MP

### ENHANCING 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.

 CALUMET

# VERSAGEL® MP

## ENHANCING GEL

Versagel MP products are a gelled fatty ester made from isopropyl palmitate. Isopropyl palmitate is an emollient ester derived from isopropyl alcohol and palmitic acid, generally conforming to the following structure:  $CH_3(CH_2)_{14}CO_2CH(CH_3)_2$ . Similar to hydrocarbon gels with similar chain length, the Versagel MP materials are equipped with a long hydrophobic hydrocarbon chain to provide skin occlusivity. Additionally, they have a carboxylic functionality near the end of the molecule to give a drier and lighter skin feel.

Versagel MP acts as a fast spreading emollient providing moisturization and efficient absorption. It provides a soft and supple texture as well as good spreading characteristics. Isopropyl palmitate is an established penetration enhancer for transdermal systems and the innovative gelled option can provide better functionality and aesthetics.

## APPLICATIONS

- Color Cosmetics: lipstick, lip gloss, lip gel
- Skin Care: creams, lotions, face mask/peels, oils
- Hair Care: treatments, serums, oils

## TYPICAL PROPERTIES

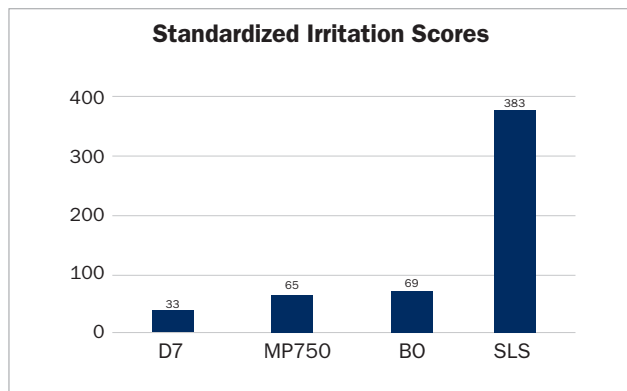
	VISCOSITY @ 25 °C D2983 (cPs)	SPECIFIC GRAVITY @ 25/25 °C D4052	SAYBOLT COLOR D156	FLASH POINT °C ASTM D92	POLARITY LOG P
<b>VERSAGEL MP (Isopropyl Palmitate)</b>					
MP 750	82,000 - 108,000	0.8520	+30	>160	8.1
MP 1600	160,000 - 200,000	0.8520	+28	>160	8.1

### International Nomenclature of Cosmetic Ingredients (INCI):

Isopropyl Palmitate (and) Ethylene/Propylene/Styrene Copolymer (and) Butylene/Ethylene/Styrene Copolymer

## MINERAL OIL AND VERSAGEL MP STUDY TO DETERMINE COMPARATIVE MILDNESS OF INGREDIENTS

A clinical study was conducted using 100 micro liters occlusive patches of product applied to backs of subjects for 14 days. Using the Berger & Bowman Grading Score the skin patches were evaluated and given standardized cumulative irritation scores. The study showed that Drakeol® 7 (D7) was more than 50% less irritating than a commercial baby oil (BO) while Versagel MP 750 had a similarly low irritation score to BO. The study also showed the anionic surfactant sodium lauryl sulfate (SLS) which is a known skin irritant as a positive control. The BO and SLS provided benchmarks that further showed how both Drakeol 7 White Mineral Oil and Versagel MP are very mild ingredients in applications such as moisturizers and offer hydration without irritating sensitive skin.



Study #C00-C023