A BETTER WAY TO FORMULATE

VERSAGEL®

VERSAGEL® MD

FAST-DRYING AND TRANSFER-RESISTANT 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®

CALUMET

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To request a sample, visit penreco.com.

VERSAGEL® MD

FAST-DRYING AND TRANSFER-RESISTANT GEL

Gelled Isododecane (C12 isoparaffin) provides a highly volatile emollient with light, non-greasy and low residue skin feel. It is an ideal vehicle for delivering pigments and other solid materials in quick-set/fast-dry anhydrous applications. With a low viscosity and density, Versagel MD products have high spreadability and are used as a film former for applications that require transfer-resistance. The gels have excellent clarity which allows unique items such as glitter, wax beads and other materials to be suspended. It is thermally stable and UV stable as well as compatible with most chemical ingredients including, cyclomethicone and phenyl trimethicone; however, the viscosity of the gel may be decreased significantly.

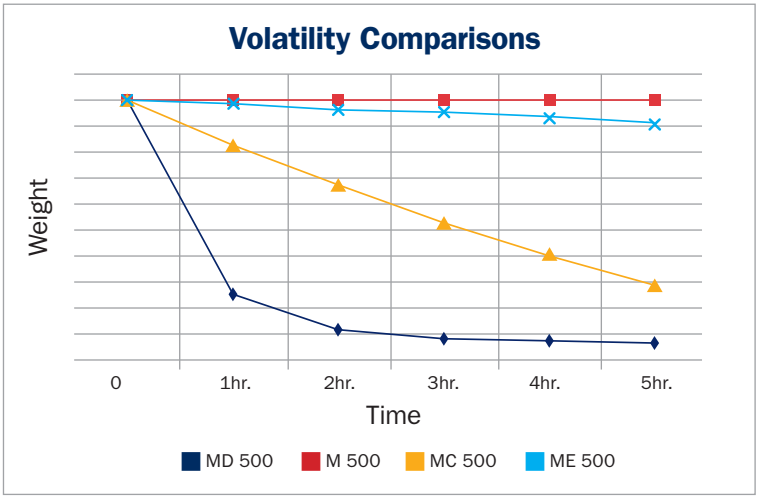
APPLICATIONS

- Color Cosmetics: mascara, eyeliner, lipstick, eyeshadow, face/body paint, blush, bronzer, foundation, setting lotions and primers, body glitter
- Skin Care: serums, gels, oils, lotions, creams, scrubs, balms, makeup remover, hand cleaners
- Hair Care: serums, oils, styling products, conditioners, creams

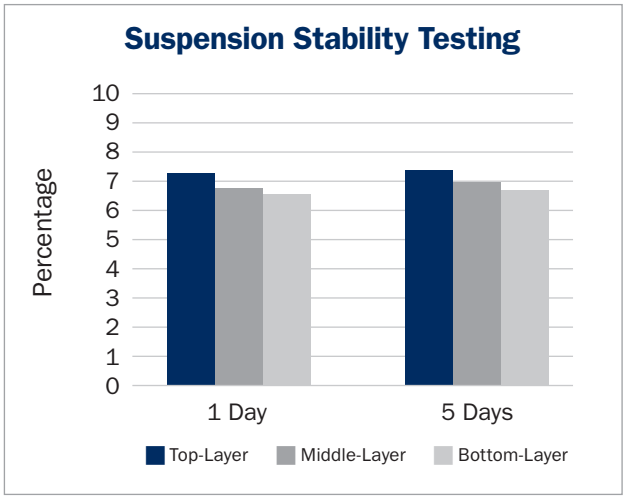
TYPICAL PROPERTIES

	VISCOSITY @ 25 °C D2983 (cPs)	SPECIFIC GRAVITY @ 25/25 °C D4052	SAYBOLT COLOR D156	FLASH POINT °C ASTM D93	POLARITY LOG P
VERSAGEL MD (Isododecane)					
MD 500	20,000 - 35,000	0.7486	+23	>45	6.2
MD 1600	40,000 - 55,000	0.7496	+23	>45	6.2

International Nomenclature of Cosmetic Ingredients (INCI):
Isododecane (and) Ethylene/Propylene/Styrene Copolymer (and) Butylene/Ethylene/Styrene Copolymer



Among the Versagel product lines, Versagel MD has the greatest volatility. The graph illustrates the volatility differences among Versagel MD, MC, ME and M products. Versagel MD 500 loses 75% of its weight in the first hour, versus 18% for MC 500 and 1.6% for ME 500 at elevated temperatures (90 °C).



The stability results shows Versagel MD 1600 and iron oxide suspension stored at elevated temperature (60 °C). The distribution of iron oxide remains homogeneous throughout the aging process.