



A BETTER WAY TO FORMULATE

VERSASTIQUE™ LOW MELT

CLEAR STIQUE TECHNOLOGY

The Versastique product line is a multi-functional material that provides a better way to formulate through simplified creation of functional and aesthetic solid stick applications. With translucent and clear stick properties, Versastique is ideal for natural, mineral and synthetic ingredients in cosmetics, personal care, skin care, sun care and health care products.

Versastique offers formulators excellent performance and stability benefits:

- Formulation Friendly – efficient delivery system, easy to use (simply melt and mix).
- Cost Effective – reduces amount of structural material required to make a stick application.
- Versatility – compatible with a wide variety of low polarity ingredients.
- Performance – excellent suspension properties and superior moisture delivery.
- Stability – stabilizes and protects active ingredients in a self-preserving formulation base.
- No harsh chemicals – milder to the skin and low toxicity.

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 and solid stick technology, we can provide supporting clinical and in-vitro 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.

VERSASTIQUE™ LOW MELT

CLEAR STIQUE TECHNOLOGY

FORMULATING STICKS WITH VERSASTIQUE™ LOW MELT

The major challenge in formulating stick products is balancing good in-use and mold-release properties with physical and chemical stability. Making the stick too hard with high melting point waxes can provide good heat stability, but often results in poor application (transfer rate or payout) on skin. Using Versastique in your formulation can significantly reduce friction while maintaining sufficient payout — without sacrificing stability of your stick products.

Formulating stick products typically involve heating the ingredients to a molten state to facilitate thorough mixing followed by extrusion or pouring. A lower melting point product base allows incorporation of heat sensitive and volatile ingredients while also providing a safer processing temperature. Additionally, the higher flash point of the Versastique Low Melt series enables an even greater margin of safety by increasing the difference between the processing temperature and the flash point.

APPLICATIONS

- Color Cosmetics: concealer, foundation, blush/highlighter, face and body paint, lipstick, lip liner, eye liner, multi-stick
- Personal Care: deodorant, cleanser, mask/peels
- Skin Care: oils, insect repellent, cuticle oil, complexion correction, aftershave
- Sun Care: sunblock/sunscreen, after-sun cooling
- Health Care: scar treatment, topicals, ointments, wound-healing products, pain relief, acne treatment
- Hair Care: pomades, styling products, treatments

The Versastique Low Melt product line includes gelling four substrates:

- SQ Squalane
- ML C12-15 Alkyl Benzoate
- ME Hydrogenated Polyisobutene
- M Mineral Oil

KEY TYPICAL PROPERTIES	VERSASTIQUE LOW MELT			
	SQ 5T	ML 5T	ME 5T	M 5T
Viscosity @ 130 °C (cPs), SC4-18, 10 rpm, (90 rpm)	4.6	4.1	5.2	4.3
Specific Gravity @ 25 °C	0.81	0.93	0.83	0.85
Flash Point ASTM D-92 (°C)	220	195	145	188
Melting Point (°C)	85	81	85	88
Appearance	Clear solid	Clear solid	Clear solid	Clear solid
Gardner Color	0.6	0.3	0.6	0.3
Hardness (g) typical	20	20	20	20

International Nomenclature of Cosmetic Ingredients (INCI)

The **Versastique Low Melt** product line includes the gelled (substrate) and Butyl Stearate, Isostearyl Alcohol, Hydrogenated Styrene/Butadiene Copolymer, Dibutyl Ethylhexanoyl Glutamide, Dibutyl Lauroyl Glutamide, Pentaerythrityl Tetra-di-t-butyl Hydroxyhydrocinnamate



VERSASTIQUE ANTI CHAFE STICK

This stick formulation spreads easily on the skin. It contains a high level of Versastique Low Melt ME 5T for extra moisturization and to reduce skin irritation caused by prolonged mask usage.

Phase	Ingredient	Weight (%)
A	Versastique Low Melt ME 5T	99.8
B	Clear Vitamin E	0.1
B	Vitamin A Palmitate	0.1
Total		100%

*Products in **bold** are supplied by Calumet Specialty Products Partners, L.P.

Procedure: Melt Phase A (85 °C). Add Phase B. Mix Phase A/B at 85 °C until homogeneous. Pour into suitable containers and allow to cool.

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