AUTHOR CONTACT:
Eric Bishop / Shin-Etsu Silicones of America, Inc.
513-232-8917 / ebishop@shinetsusilicones.com

EDITORIAL CONTACT:
Ray Farrar / Method Media LLC
(216) 861-0862 / rayf@methmedia.net

FOR IMMEDIATE RELEASE:

SILICONE HYDRATION SENSATION:
SHIN-ETSU SILICONES INTRODUCES POLYGLYCERIN-MODIFIED EMULSIFIERS.

Akron, OH– October, 2020

Hydration continues to be the top skin care beauty trend, and is perceived as the key to healthy and vibrant skin. To propel this trend forward, Shin-Etsu Silicones of America (SESA: A U.S. subsidiary of Shin-Etsu Chemical Co. Ltd., Japan) has advanced its line of super-hydrating PG-modified silicone emulsifiers, with ingredients that are silicones functionalized with polyglycerin groups.

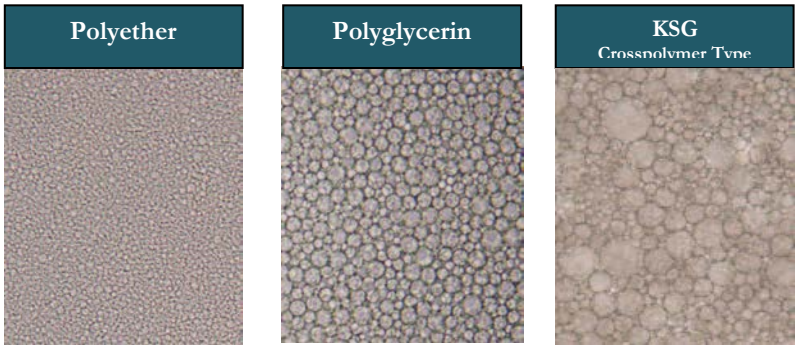
This polyglycerin modified family of products has demonstrated, through in-vitro measurements, outstanding humectancy which is used to retain essential moisture. The resulting formulations deliver unique, versatile textures, including serums, lotions, creams, balms and sticks with exquisite skin feel. Notably, the PG-modified series is also PEG-free (polyethylene glycol free).

Stick-based formulations are particularly desirable in today's COVID-19 climate cosmetic concerns as their compact format provides a quick, easy way to deliver spot treatments to solve on-the-go mask wearing situational issues.

Ultimately, the series' polyglycerin-based benefits provide essential functionality in achieving superior hydration, moisturization, and ease-of-use. The series' versatility also allows formulators to leverage specific ingredients to achieve products with a wide array of properties in terms of feeling–from light & fresh to rich & nourishing.

A pioneer in the field of silicones for personal care products, SESA's new generation of PG-modified cosmetic silicone formulations work alone and collectively to deliver synergistic sensory, stability, and functionality benefits based on their application for a wide variety of cosmetic products. Key products/formulations in the cosmetic silicone system include:

Comparison of Particle Size



(Note: Refer to Particle Sizes for Products Below)

BRANCHED O/W EMULSIFIER

KF-6100: *Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone*

KF-6100 is a 100% active, clear liquid designed to be an O/W or Sil/W emulsifier for cosmetics and personal care. Essentially odorless and featuring high humectancy, the KF-6100 has the ability to stabilize elastomer gels and high viscosity emollients in stand-alone O/W systems. Its ambient processing requires no need for homogenization and offers wide-range particle size modification capability. Notably, it is a branched polyglycerin modified silicone fluid, containing both siloxane and polyglerin pendant groups. The branched siloxane pendant groups give it a silky and non-sticky feel.

Applications: Fragrance-free products / Sensitive skin products / Skin care products (lotions, gels, creams, serums) / Sun care products (lotions, gels, sprays, self-tanners) / Anti-aging products / Color cosmetics (foundations, mascaras) / Hair styling (cuticle coats, pomades, gels) /Antiperspirants and Deodorants

MULTI-FUNCTIONAL WATER-IN-OIL EMULSIFIERS

KF-6104: *Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone*
KF-6105: *Lauryl Polyglyceryl-3 Polydimethylsiloxyethyl Dimethicone*

KF-6104 and KF-6105 are high purity polyglycerin and polyglercerin/C12 alkyl functionalized silicone emulsifiers, respectively. KF-6104 is designed for water-in-silicone and water-in-light ester emulsions. KF-6105 is modified with alkyl, siloxane, and polyglycerin groups, thus, it is a broad spectrum emulsifier capable of emulsifying silicones, esters, and organic oils.

The chemical architecture of both is a unique branched structure, in that, the silicone copolymer is grafted with silicone pendants in addition to the polyglycerin and alkyl modifications.

Both are capable of forming emulsions with outstanding silky, moisturized tactile properties. The polyglycerin functionalities add superior humectancy to treated skins. Particle size of polyglycerin emulsifiers are larger than their polyether analogs, which impact the skin feel. The polyglycerin forms that the series provides is a powerful tool for the formulation chemists to develop innovative textures–by controlling the emulsion droplet sizes when combining them with the crosspolymer emulsifiers such as KSG-710 (see below). Stable products with particle sizes ranging from 0.5 microns to 30 microns are easily obtainable. Ambient processing is possible when all the formulation ingredients are liquid.

Applications: Fragrance-free products / Sensitive skin products / Skin care products (lotions, gels, creams, serums) / Sun care products (lotions, gels, sprays, self-tanners) / Anti-aging products / Color cosmetics (foundations, mascaras) / Hair styling (cuticle coats, pomades, gels) / Antiperspirants and Deodorants

MULTI-FUNCTIONAL SELF-EMULSIFIABLE SILICONE ELASTOMERS FOR W/O AND W/SIL EMULSIONS

KSG-710: *Dimethicone (and) Dimethicone/Polyglycerin-3 Crosspolymer*
X-22-6695B: *Jojoba oil (and) Lauryl Dimethicone/Polyglycerin-3 Crosspolymer*

KSG-710 is a polyglycerin crosslinked elastomer emulisifer in 6cS Dimethicone, designed to be a user friendly emulsifier for w/sil and w/light ester emulsions. X-22-6695B is an alkyl (C12) functionalized silicone crosslined with polyglycerin in jojoba oil; the alkyl modification expands the application to include w/o emulsions.

Both products are capable of stabilizing emulsions with internal phases ranging from low to ultra-high. Compared to conventional w/o emulsifiers, both can stabilize much larger particle size emulsions–including the water-breaking type to deliver the hydration visual cue. Notably, they are designed to be easy to use, and have a high capacity to create products with a vast array of textures with desired skin feel.

Applications: Fragrance-free products / Sensitive skin products / Skin care products (lotions, gels, creams, serums) / Sun care products (lotions, gels, sprays, self-tanners) / Anti-aging products / Lip products / Color cosmetics (foundations, mascaras) / Hair styling (cuticle coats, pomades, gels) / Fragrance gels, lotions and creams

MOISTURIZING/HYDRATING HAND CREAM

SC-309M: *PEG-free, nourishing non-greasy, silky after feel*

Nourishing, non-greasy, and intensely moisturizing, the SC-309M cream is an ideal remedy for "dry and chapped" hands. Notably, the current COVID-19 pandemic has resulted in people fervently washing their hands and using harsh alcoholic hand sanitizers. Therefore, the formulation's superior moisturizing properties are the perfect solution to address vital hand hygiene performance (HHP) variables.

The combination of X-22-6695B with KF-6105 makes for an effective emulsification system for W/O systems with super moisturizing emollient organic oils such as squalane and jojoba oil. Glycerin provides an additional hydration benefit. The KSP-101 hybrid silicone powder also helps provide a natural finish with a non-greasy, silky after feel.

Ingredient Information:

X-22-6695B: Jojoba oil (and) Lauryl Dimethicone/Polyglycerin-3 Crosspolymer
KSP-101: Vinyl Dimethicone/Methicone Silsesquioxane Crosspolymer
KF-6105: Lauryl Polyglyceryl-3 Polydimethylsiloxethyl Dimethicone
DMF-A6CS: Dimethicone

CONCLUSION:

SESA's Cosmetics Marketing Manager, An-Li Kuo, noted that, "The PG-modified cosmetic silicone product line is outstanding, as Shin-Etsu is the only company in the Personal Care Market that has this full-range of products with a wide range of capabilities. This achieves unlimited looks and feels such as light, fresh, smooth, silky, etc."

According to SESA's Cosmetics Application Laboratory Team Leader, Janine Cherette, "We recognize the importance of innovating solutions for cosmetics consumers seeking versatile, on-the-go moisturizing options with progressive sensory effects. Given today's challenging COVID-19 concerns, the line's advanced properties provide a myriad of solutions to address vital skin-care needs."

SESA's cosmetic formulations are developed at their 14,000 sq. ft., state-of-the-art Cosmetics Application Laboratory in Paramus, NJ. Strategically located only 20 miles from Manhattan and Newark International Airport, it allows SESA to be closer to many of its strategic customers based in New York and New Jersey.

For more detailed information contact: **cosmetics@shinetsusilicones.com**

215 College Rd. Paramus, NJ 07652
PH: 973-339-9077 / FX: 973-256-8178

CORPORATE PROFILE: A U.S. subsidiary of Shin-Etsu Chemical Co. Ltd., Japan, Shin-Etsu Silicones of America Inc. offers vast technical and capital resources to formulate solutions as a major supplier of silicone materials to North America's medical, automotive, electronics, aerospace, cosmetics, and manufacturing industries. Shin-Etsu's premium silicone compounds incorporate leading-edge technology, staff expertise, and value-added service; offering customers the highest levels of quality and consistency in specialty silicone materials.

Author: Eric Bishop / Shin-Etsu Silicones of America, Inc. / 513-232-8917 ebishop@shinetsusilicones.com
Editorial & Photo Contact: Ray Farrar / Method Media LLC / 216-861-0862 rayf@methmedia.net