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## NEW SILICONE TOOLS SHINE LIGHT ON UV PROTECTION: SHIN-ETSU SILICONES ADVANCES UV AND SENSORY BENEFITS FOR SUNSCREEN FORMULATORS.

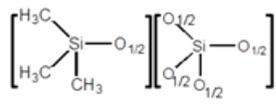
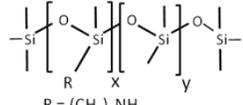
Akron, OH– September, 2011

In response to the continuing concern over ozone depletion and consumers' increased exposure to heightened levels of UV radiation and potential skin damage, Shin-Etsu Silicones of America (SESA: A U.S. subsidiary of Shin-Etsu Chemical Co. Ltd., Japan) has recently updated their sunscreen toolbox. These additions to the line include silicones that offer benefits such as durable UV protection, high water resistance, excellent skin feel, wider formulation latitude, and enhanced SPF values. The key SESA products include silicone-acrylate film formers, MQ resin film formers, and amino-modified gum blends that have features to overcome the low water resistance and 'heavy' feel deficiencies of current O/W systems that use organic sunscreens as the protectants.



The SESA sunscreen toolbox includes the KP-545L silicone-acrylate film former, KF-7312L MQ resin film former, and KF-8020 amino-modified gum blend, respectively. The KP-545L and KF-7312L feature 2cs dimethicone as its base fluid and therefore provides an effective, quality alternative to D5 derivative materials. The KF-8020 uses a higher viscosity dimethicone. The combined use of ingredients in the SESA sunscreen toolbox delivers desired physical properties and benefits to existing sunscreen application formulations – offering advanced UV protection and sensory/feel benefits.

### SUNSCREEN TOOLBOX / PRODUCT PROFILE:

PHYSICAL PROPERTIES	KP-545L	KF-7312L	KF-8020
Classification	Acrylate Film Former	MQ Resin	Amino Gum Blend
INCI Name	Acrylates/Dimethicone Copolymer (& Dimethicone)	Trimethylsiloxysilicate (& Dimethicone)	Aminopropyl Dimethicone (& Dimethicone)
Base Fluid	Dimethicone 2cs	Dimethicone 2cs	Dimethicone 20cs
Active Content (%)	40	50	20
Viscosity at 25° (cps)	750-8,000	10-100	20,000-60,000
Structure			

#### KP-545L (Acrylates/Dimethicone Copolymer (&) Dimethicone):

The newest product in the SESA sunscreen series is a flexible silicone acrylate film former in a high purity 2cs dimethicone carrier that delivers excellent UV protection in water-based sunscreen systems. Forming a soft, flexible film that is continuous on the skin, it tests well for water repellency and repeatability enhancing the sun protection properties.

The KP-545L is designed to be a durable, smooth, and pliable film for applications requiring long lasting and non-transfer properties. Upon drying, the film is water and sebum resistant.



### **KF-7312L (Trimethylsiloxysilicate (&) Dimethicone):**

This MQ Resin is a silicone-based film former in a high purity 2cs dimethicone carrier. The key physical property benefit is its hardness which equates into superior transfer resistance. This key benefit can enhance sunscreen formulations when blended with the UV protection properties of KF-8020 or KP-545L.

### **KF-8020 (Amniopropyl Dimethicone (&) Dimethicone):**

This Amino Gum is a blend of ultra-high molecular weight amodimethicone gum in 20cs dimethicone carrier. Primarily functioning as a skin conditioner with excellent sensory/feel and film forming properties, it also provides good UV protection. The amino gum is a patented technology, essentially non-yellowing, and designed to deliver highly perceivable consumer sensory benefits.

When incorporated into sunscreen formulations, it forms a substantive, non-occlusive, hydrophobic film that improves the feel of the product, could enhance the substantivity of actives, and provides long lasting benefits. KF-8020 is designed for skin and sun care products including lotions, creams, and self-tanners, etc.

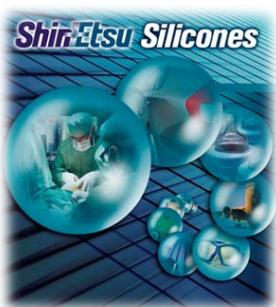
### **SUNSCREEN TOOLBOX / CONCLUSION:**

Ultimately, the combined use of silicone acrylate co-polymer film former (KP-545L), MQ resin film former (KF-7312L), and/or amino gum blend (KF-8020) in sunscreen applications enhances the UV protection on the final formulations. In addressing the major challenge of water resistance in today's popular O/W sunscreens, incorporating a mix of ingredients from the SESA sunscreen toolbox can substantially improve water resistance in existing formulations. Lastly, an excellent feel is promoted with the SESA film formers and amino gums.

According to SESA's North America Marketing Manager Eric Bishop, "The goal is improving the transmissivity of UV protection in today's sunscreens. The SESA sunscreen toolbox has been tested and offers formulators a potent combination of options based on the UV requirements and sensory properties."

For more detailed information on the SESA silicone sunscreen toolbox contact:

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### **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.

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