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NEWS RELEASE

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GELEST SHOWCASES BIOSAFE® ANTIMICROBIAL TECHNOLOGY AND ADVANCED SILANES

MORRISVILLE, Pa. (June 1, 2015) – At Eastern Coatings Show 2015 in Atlantic City, N.J, today through June 4, Gelest, Inc. is highlighting silicon-based BIOSAFE® antimicrobials for long-lasting surface protection and advanced silanes for high-performance applications. Gelest’s dipodal silanes improve substrate bonding, and its cyclic azasilanes provide effective surface modification at nanodimensions.

BIOSAFE antimicrobials impart bacteriostatic, fungistatic, and algistatic properties to formulated coatings. They inhibit the growth of bacteria on the dry surface and prevent deterioration and discoloration caused by fungi and algae growth. The silicon-based BIOSAFE materials are positively charged polymers that can be incorporated into high-performance coatings systems. Available as a powder or aqueous solution, they are VOC-free, durable, leach-resistant, and non-migrating. BIOSAFE antimicrobials do not create the conditions that promote the development of resistant microorganisms.

“With proper integration, BIOSAFE products show high antimicrobial performance in ISO and ASTM testing,” said Greg Hertenberger, Gelest Product Manager Silanes and

Metal-Organics. He noted the patented polymeric chemistry of the BIOSAFE antimicrobial is a significant advance over chemistry currently in the marketplace and has a long track record of success.

Advanced Silanes

Gelest's dipodal silanes are a new series of adhesion promoters. They have intrinsic hydrolytic stabilities far greater than conventional silanes, extending coating service life. They have achieved commercial success in applications such as adhesive primers for ferrous and nonferrous metals, and as adhesion promoters for multilayer laminates.

"Dipodal silanes offer significant performance advantages over conventional silanes. They can also be used in tandem with conventional silanes to create a synergistic blend that enhances overall performance," said Hertenberger. "Depending on the system formulation, a mixture of just 10 percent dipodal silane amplifies the performance of conventional silanes and significantly increases adhesion promotion."

The silane coupling agent resists deterioration by the intrusion of water between the polymer and the substrate. In addition to providing water resistance, dipodal silane coupling agents increase the crosslink density and hardness of films.

Cyclic azasilanes have greater reactivity than conventional alkoxysilanes. They react rapidly with all surface hydroxyl groups, for efficient surface modification.

"This recent class of silane coupling agents affords a smooth monolayer and reacts with substrates without forming such byproducts as alcohol, HCl, and cage-like condensation products typical with the use of conventional silane coupling agents," said Hertenberger.

Cyclic azasilanes reduce the overall waste stream as there are no longer any

hazardous byproducts. Key applications include nanoparticle vapor-phase functionalization and capping of silanol functional siloxanes.

To obtain a copy of Gelest's technical guide, "Biosafe® Organosilane Antimicrobials," or the "Silane Coupling Agents: Connecting Across Boundaries" brochure or to explore solutions for your new product development initiatives, please contact: Gabrielle Lockwood, Sales & Marketing Associate, at 215-547-1015 or glockwood@gelest.com.

About Gelest

Gelest, Inc., headquartered in Morrisville, Pennsylvania, is recognized worldwide as an innovator, manufacturer and supplier of commercial and research quantities of organosilicon compounds, metal-organic compounds and silicones. Gelest serves advanced technology markets through a materials science-driven approach. The company provides focused technical development and application support for semiconductors, optical materials, pharmaceutical synthesis, diagnostics and separation science, and specialty polymeric materials: "Gelest – Enabling Your Technology."

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Gelest, Inc.
Enabling your Technology

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