SIOResin Launches Polyethyleneimine PEI-25K: A Practical Solution for Multiple Industrial Challenges

Molecular Weight 25,000, Branched Cationic Polymer, 99% Active Content, for Enhanced Adhesion, Flocculation, and Surface Interaction Performance

SioResin

NEW YORK, NY, UNITED STATES, April 14, 2026 /EINPresswire.com/ -- SIOResin® has officially introduced its Polyethyleneimine PEI-25K, a high molecular weight branched polymer designed for demanding industrial applications where surface interaction, binding efficiency, and water-based compatibility are critical.

With an active content of around 99%, a viscosity range of 200,000–350,000 mPa·s, and an amine value of approximately 18, SIOResin® PEI-25K is positioned as a high-performance functional polymer rather than a conventional additive. Its structure is built around a dense network of primary, secondary, and tertiary amine groups, giving it strong cationic behavior in aqueous systems.

> “We saw faster floc formation and clearer separation. The dosage was also easier to control compared to our previous solution.”
>
> *Matta*

Details: https://www.sioresin.com/additive/pei-25k-polyethylenimine.html

A material designed around real production needs

In many industrial formulations, especially water-based systems, formulators face a familiar conflict: higher performance often comes with instability, processing difficulty, or higher dosage requirements. SIOResin® PEI-25K is developed with a different approach—keeping performance high while maintaining practical usability in production environments.

The product dissolves well in water and integrates smoothly into existing systems without requiring major formulation changes. This makes it particularly attractive for industries that need fast implementation rather than long redevelopment cycles.

Where PEI-25K makes a difference

In water treatment, PEI-25K shows strong ability to neutralize negatively charged particles. It improves floc formation and accelerates sedimentation, which can help reduce chemical consumption and improve operational efficiency.

SIOResin Polyethyleneimine PEI 25000

In coatings and surface modification, its high amine density enhances adhesion on challenging substrates such as plastics, metals, and fiber-based materials. It also improves interlayer bonding, which helps reduce coating defects and delamination issues.

In paper and packaging applications, it supports better filler retention and contributes to improved dry strength performance, helping manufacturers stabilize production quality.

In advanced material systems, PEI-25K works as a reactive functional platform. Its amine-rich structure allows it to interact with a wide range of components, improving compatibility in complex formulations.

CEO comment

Mr. Wu, CEO of SIOResin, shared his view on the product:

“Our polyethylenimine PEI-25K was not designed as a laboratory material. It was developed with production reality in mind. Customers need materials that work immediately, not after repeated reformulation. This product reflects our direction—simple to use, but powerful in function.”

He added that the company will continue focusing on application-driven materials that help customers solve real operational challenges rather than adding formulation complexity.

Editor’s perspective

From an editorial standpoint, PEI-25K stands out not because it introduces a completely new chemistry, but because it refines a well-known polymer system into a more practical industrial form.

Many polyethylenimines on the market offer either good reactivity or ease of handling, but rarely both in a balanced way. PEI-25K's combination of high active content, controlled viscosity range, and consistent amine value makes it easier for formulators to predict behavior in real systems.

This predictability is often underestimated but highly valuable. In industrial production, small variations in polymer behavior can lead to significant differences in coating quality, flocculation efficiency, or batch stability. A material that behaves consistently across batches reduces both risk and development time.

For this reason, PEI-25K is worth attention not only as another PEI grade, but as a more "production-friendly" version of a highly functional polymer class.

Broader application outlook

While initial focus remains on water treatment, coatings, and paper systems, SIOResin expects PEI-25K to find further applications in textile finishing, membrane modification, and functional surface engineering, where charge-driven interaction plays a key role.

The company plans to expand collaboration with partners globally to refine application systems and explore new industrial use cases.

Availability

SIOResin® PEI is available in 25kg/200kg packaging and offers a shelf life of 12 months when stored under appropriate conditions.

About SIOResin®

SIOResin (Guangzhou SIO New Material) is a leading manufacturer specializing in the development of sustainable products and advanced technologies in the field of new materials. The company offers professional, application-oriented solutions including water-based polyurethane, water-based acrylic resin, water-based UV-curing resin, silicone resin, silicone rubber, additives, and curing agents, among others. These products have been widely adopted across diverse industries such as coatings, cosmetics, textiles, biotechnology, automotive, and other high-tech sectors. Committed to innovation, quality, and sustainability, SIOResin supports manufacturers in achieving high-performance, environmentally responsible solutions tailored to their specific production needs.

More Products:

https://www.sioresin.com/blog/polyethylenimine-pei.html
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