

Lencolo 4051 Adhesion Promoter for Coating Layers

Description

Lencolo 4051 is a phosphate-ester grafted polymer containing highly reactive phosphate-carboxyl groups. It effectively promotes adhesion on metals, plastics, and other substrates. Its high intermolecular polarity significantly enhances adhesion on low-polarity surfaces. With excellent compatibility and outstanding adhesion-promoting performance, it is widely used in UV-curable coatings, vacuum metallized primers, plastic topcoats, 3C spray coatings, inks, laminating adhesives, as well as epoxy, polyurethane, acrylic, and nitrocellulose-based coatings.

Technical Data

Composition	Phosphate-carboxyl functional polymer
Appearance	Light yellow liquid
Specific Gravity	1.3
Active Content (%)	100%
Acid Value (mg.KOH/g)	180 - 210
Refractive Index	1.462

Product Features

High reactivity and high polarity, easily grafted onto substrates, providing strong adhesion. Long molecular chains offer good flexibility, impact resistance, and resistance to warping and cracking. High functional crosslinking enhances latex stability, abrasion resistance, excellent compatibility, and synergistic performance.

Recommended Usage

UV Curing Systems: Enhances adhesion to substrates; applicable in PCB solder mask inks, metallic inks, metallic topcoats, and UV wood coatings.

Plastic Vacuum Metallized Coatings & Intermediate Coatings: Serves as an auxiliary resin; recommended dosage: 0.5–3%.

Acrylic Emulsions: Improves freeze–thaw stability, mechanical stability, and scrub resistance of resins; recommended dosage: 0.5–1.5%.

Adhesives: Can be blended with acrylic, epoxy, or polyurethane systems for metals, glass, plastics, etc.; recommended dosage: 5–7%.

Electronics & Cosmetic UV Spray Topcoats: Enhances adhesion and performance; recommended dosage: 1.0–3.0%.

Screen Printing Inks: Provides excellent flexibility and adhesion; recommended dosage: 1.0–5.0%.

Other Polymers: Used as adhesion and flexibility modifiers; recommended dosage: 3–10%.

Storage Conditions

To prevent premature polymerization due to the high reactivity of this product, keep it tightly sealed and store away from heat sources and direct sunlight. It is recommended to maintain storage temperature below 30 °C. Unused product should be promptly resealed and must not be left open. Under ventilated conditions at 25 °C, the product has a safe storage period of 6 months. Available

Tips: Lencolo 4051 exhibits excellent adhesion to metals, particularly suitable for vacuum metallized topcoats, enhancing adhesion to the metallic layer.