

Lencolo 4051D Phosphate Modified Adhesion Promoter

Description

Lencolo 4051D is a highly reactive polymer grafted and esterified with phosphate, containing highly reactive phosphate carboxyl groups. It exhibits excellent compatibility across multiple systems and significantly enhances adhesion on low-polarity substrates such as metals, plastics, glass, and fibers. Containing phosphate carboxyl groups of different structures, it improves coating performance with higher water resistance, hydrolysis resistance, and boil-proof properties. It is widely used in UV-curable systems, vacuum metallized primers and topcoats, plastic topcoats, 3C spray coatings, inks, laminated adhesives, as well as epoxy, polyurethane, acrylic, and nitro-based coatings.

Technical Data

Component	Carboxy phosphate containing polymers
Appearance	Light yellow liquid
Specific gravity	1.3
Active ingredient(%)	100%
Acid value (mg.KOH/g)	120 - 160
Refractive Index	1.465

Product Features

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

Recommended Usage

Used in UV-curable systems to enhance substrate adhesion.

Applications include: PCB UV solder mask inks, metallic inks, metallic topcoats, and UV wood coatings.

Plastic vacuum metallized topcoats / intermediate coatings: acts as an auxiliary resin, recommended dosage 0.5–3%.

Acrylic emulsions: improves freeze–thaw stability, mechanical stability, and abrasion resistance, recommended dosage 0.5–1.5%.

Adhesives: can be blended with acrylics, epoxy, or polyurethane for metals, glass, plastics, etc., recommended dosage 5–7%.

Electronics / cosmetic UV spray coatings: recommended dosage 1–3%.

Screen printing inks: provides excellent flexibility and adhesion, recommended dosage 1–5%.

Other polymer 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 packaging: 25 kg per drum

Tips: Lencolo 4051D exhibits low odor and low acid value, with excellent stability in colored systems.

Note: Technical data represents typical values only. In view of the differences in formulas, production process, conditions, all the above statements must be adjusted according to the actual situation, our company does not make any promises. Our company reserves the right to reform its products without prior notice of any changes.