

WHAT IF
& CHEMISTRY
& NATURE
COULD BE
FRIENDS?

LPC60

Lorama Protective Colloid
Product Guide



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Lorama Protective Colloid 60 (LPC60) is a polysaccharide based natural product that is a water dispersible non-ionic polymer in the form of a non-hazardous free flowing powder. LPC60 increases the stability of the latex emulsion made from polyvinyl acetate (PVA) and its copolymers. It reduces raw material cost through partial replacement of Hydroxy Ethyl Cellulose (HEC) or Polyvinyl Alcohol (PVOH) in the manufacturing of latex emulsions. It provides steric stabilization of latex particles and increases the viscosity of the water phase to prevent agglomeration. **LPC60** also boasts an outstanding tolerance to salts and other electrolytes, and prevents coagulation of paint upon freezing.

WHAT IS **LPC60**?

- A polysaccharide based natural product
- A water dispersible non-ionic polymer
- A non-hazardous free flowing powder

WHAT ARE THE BENEFITS OF **LPC60**?

- Cost savings by HEC and PVOH reduction
- Non-toxic & environmentally friendly
- Increases the stability of the latex emulsion made from polyvinyl acetate (PVA) and its copolymers
- Provides steric stabilization of the latex particles
- Outstanding tolerance to salts and other electrolytes
- Prevents coagulation of the latex upon freezing

WHERE IS **LPC60** USED?

LPC60 is used as a protective colloid in the Emulsion Polymerization of:

- Polyvinyl Acetate Homopolymer
- Vinyl Acetate-Acrylic Copolymer
- Vinyl Acetate Ethylene Copolymer
- Vinyl Acetate VEOVA Copolymer

Contact

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APPLICATIONS OF LPC60

For Vinyl Acetate-Acrylic Copolymer

- Replace up to 60% of HEC or PVOH while maintaining paint properties

For PVA (Vinyl Acetate Homopolymer)

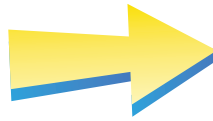
- Replaces 65% PVOH
- Improves adhesion properties

NON-MODIFIED PVA | 100% PVOH



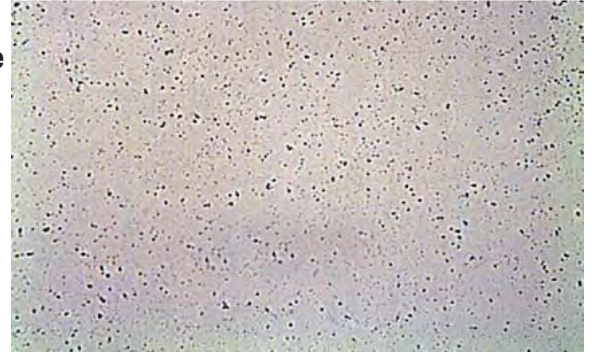
Particle Size Comparison – Magnification 400 X

Reduced Particle Size



Improved Stability

MODIFIED PVA | LPC60/PVOH



Particle Size Comparison – Magnification 400 X

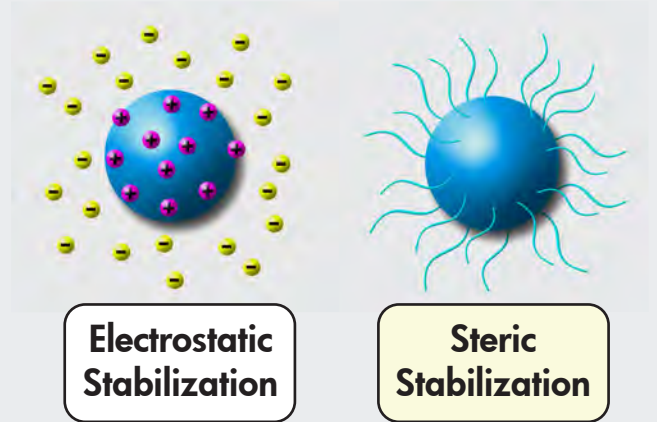
HOW LPC60 WORKS

Colloidal Suspension

A colloidal suspension is a chemical mixture where one substance is evenly dispersed throughout another substance. The particles of the dispersed substance are suspended in the mixture, unlike in a solution where they are completely dissolved. A **protective colloid** is a water-soluble macromolecule that forms a gel structure to help stabilize a colloidal suspension.

Latex emulsions are solid-liquid colloidal suspensions. Protective colloids are used in the manufacturing process of polyvinyl acetate (PVA) and its copolymers to prevent agglomeration of particles.

In electrostatic stabilization, ionic groups are used to create a charged layer around the emulsion particles, which causes them to repel. In steric stabilization, macromolecules are adsorbed on to the particles surfaces, which creates a protective layer.



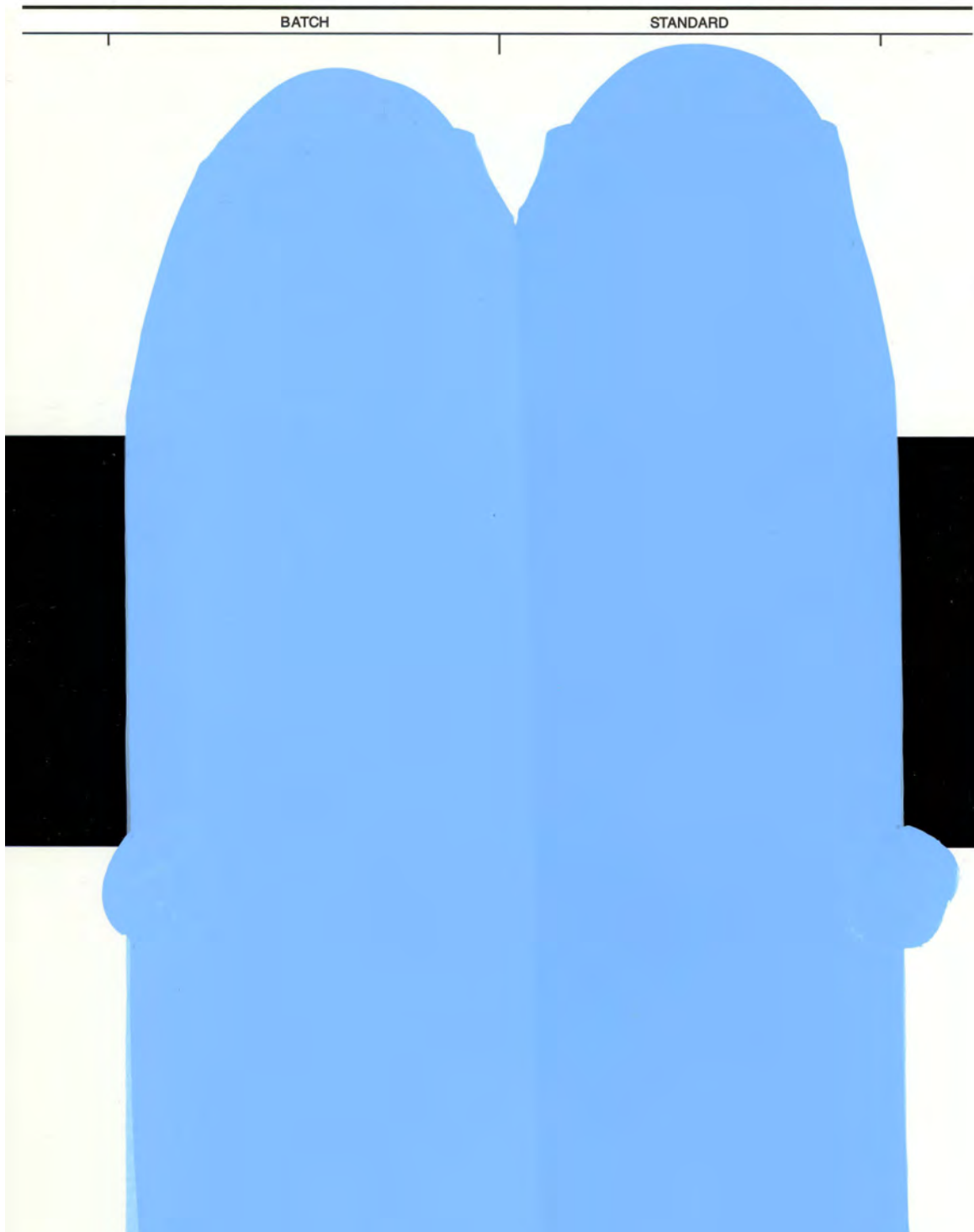
LPC60 offers **cost savings** and **environmental responsibility...**

...without sacrificing performance!

45% PVC FLAT INTERIOR VINYL ACETATE-ACRYLIC PAINT

LPC60/PVOH= 50/40

100% PVOH



Increased tint strength of the LPC60/PVOH white base was observed compared to the control paint with 100% PVOH as protective colloid.

Paints tinted with 2% wt/wt ColourFal Phthalo Blue Universal Colourant (manufactured by Falcon Technologies Inc.)