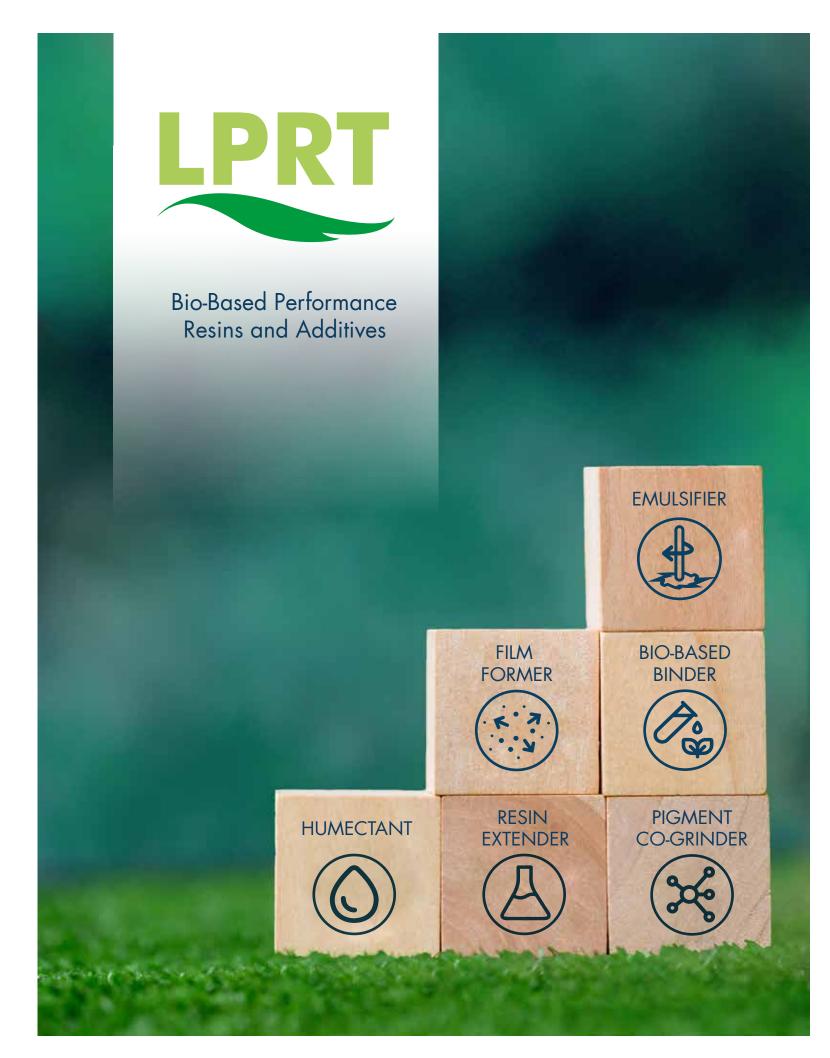




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What is LPRT?

Lorama Polysaccharide Resin Technology (LPRT) is a uniquely processed biopolymer with a multitude of inherent functional properties. Based on the most abundant naturally sourced biopolymer (polysaccharide), LPRT ensures sustainability is both cost effective and environmentally friendly.

LPRT possesses unique chemical and physical properties that allow for a broad range of industrial applications in cosmetics, coatings and adhesives markets.

PROPERTIES OF LPRT

- Pourable and water-based for ease of incorporation and processing
- Film forming technology that delivers a smooth and consistent surface profile
- Odourless, colourless, transparent, and non hazardous for easy handling and clean up
- A high gloss water soluble resin system that is freeze-thaw stable with excellent adhesion
- Excellent compatibility across a wide range of raw materials in multiple industries
- Backbone functionality that expands potential usage from emulsions to pigment dispersions

KEY ADVANTAGES OF USING LPRT

Bio-based VOC-free material

Non-toxic & Non-irritating Manufactured from renewable raw materials





22.5 BILLION+

LITRES OF PAINT MODIFIED WITH LPRT

2.27 BILLION+

LITRES OF SOLVENT REPLACED WITH LPRT & WATER

LPRT in Action



The following are market industries with key-descriptive applications where Lorama can partner with you to enhance your existing products. Our team of experts will work with you to develop and incorporate LPRT into your formulations.

LPRT FEATURES	LPRT BENEFITS	APPLICATIONS	INDUSTRIES
Bio-based binder	High compatibility with a wide range of resins to increase bio-based content	Regulated markets	 Flexographic and Digital Inks Green architectural coatings Industrial EU regulated coatings Construction: Tape joint compound and skim coatings
Humectant	Non-plasticizing open-time extender	Regulated markets	Alternative to Monoethylene Glycol and Propylene Glycol: • Low VOC water-based paints with minimal dirt pickup concerns • Inkjet open-time and overprint varnish • Glaze coats
Emulsifier	Steric stabilized oil/water interface	Regulated markets	Incorporate oil-in-water stable emulsions for lower VOC and lower cost: • Alkyd Enamels and Primers • Metal Coatings • Aerosols
High-gloss film former	Hard glossy finished with substrate adhesion due to OH functionality	Coatings	 Indirect food contact coating and inks Animal Feed topcoat Nail polish Surface defect indicator
Water Solubility	Washability	Novel coatings	Protective coatings that are removed with water: • Agricultural coatings to carry adjuvants • Glass coating for transport protection • Auto-temporary coatings for transport • Children's paint/spray paint/chalk paint • Field and seed coatings • Plastic film topcoats • Foundry coatings

LPRT Product Range

PRODUCT	DESCRIPTION	APPLICATION	% BIO-BASED
ECØ®	A film forming and water-soluble polysaccharide resin	Personal care	>70%
ECخ100	A water-soluble, powdered polysaccharide binder to create a low viscosity coating	Various water-based novel coatings for metal, glass or concrete, anti-graffiti paints including aerosols, non-toxic washable paints for arts and crafts i.e. finger paints	100%
ECخFLO	A high-solids VOC-free polysaccharide resin designed as a humectant	Manufacture of water-based coatings, inks and dispersions. Compatible with a wide range of binders & vehicles	>70%
INKRES®	Replaces 25% or more of the acrylic emulsion based on solids	Water-based gravure and flexographic ink formulations	>70%
LPR®	LPR76® and LPR® 221: Lorama Polysaccharide Resin Technology (LPRT) focusing on cost-savings and VOC reduction in solvent-based alkyd paints	Paints & Primers, Stains, Foundry coatings, Fire retardant coatings, drywall and environmentally-friendly products	>70%
LTB®	Thickener and binder for ready-to-use joint compounds & finished products with excellent adhesion & superb workability	Wall board, Tape & Cementitious surfaces	100%
LWD®	An additive used to improve application deficiencies associated with water-based wiping stains	Water-based acrylics, alkyd emulsions, and water-based oil-modified urethanes	>60%

Find the right LPRT for you

We are a full solutions provider

With our global network of dedicated lab facilities, our technical teams are locally available to assist with custom projects and new initiatives. With market proven formulation expertise, we provide both on-site and off-site support to maximize the full potential of your innovative endeavours.

We understand that successful market focused innovations rely on the strength of multi-disciplinary teams working cohesively to produce commercially driven and effective solutions to your customer's pressing needs.



Water-Based & Solvent-Based General Industrial & Architectural Coatings



LPR76® and LPR® 221 can partially replace both alkyd resins and solvents in solvent-based formulations with water, leading to cost savings and reduced VOC emissions. Because LPRT act as emulsifiers, LPRT-modified formulations retain performance properties and create stable water-in-oil systems, unlike traditional full alkyd formulas.

ECO® FLO substitutes traditional glycols as an open time extender in water-based formulations without plasticizing the film.

Lorama Coalescing Agent Bio (LCA B) is a bio-based additive that replaces traditional coalescing solvents, lowering overall paint VOC content. Additional benefits include low odour, no contribution to yellowing, and a very low hazard profile.

Both ECO® FLO and LCA B are high solids bio-based products compatible with a wide range of binders and vehicles.

Find the right LPRT for you



Exterior & Interior Wood Stains

Lorama Wood Defense (LWD®) is a bio-based, VOC-free additive engineered to reduce or eliminate lap marks, undesirable stain spots, and spatter in water-based interior wiping stain applications. It re-wets and re-solubilizes the stain during application without causing grain raising.

LPR76® enables formulators to enhance exterior water-based stains by improving adhesion and rheology, while incorporating a non-hazardous, bio-based material. It is easily integrated into water-based systems and is compatible with universal or water-based pigment dispersions, including transparent oxides and dyes.

Water-Based Inks

In Flexographic Ink formulations, InkRes® 33 can partially replace conventional water-based solution acrylics, offering better gloss, open time and ink transfer properties on corrugated board. InkRes® 33 can be utilized to reduce the use of high-cost viscosity modifiers offering additional cost benefits to the overall formulation. Re-wettability and colour strength can be improved in Flexographic inks in film printing when partially replacing acrylic resin with InkRes® 33.

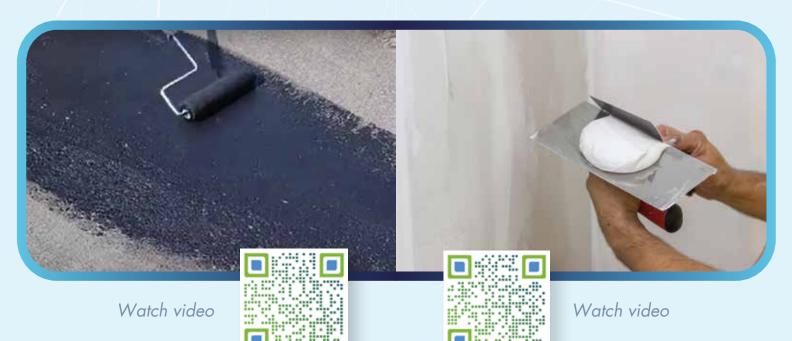
InkRes® 33 can replace high-VOC humectants while improving latency and print quality with digital printheads in Inkjet applications.



Exterior Stains & Markings

Incorporating LPR76® in stains and markings as a binder for porous substrates, such as concrete, wood, asphalt, brick, and natural stone, offers a bio-based, environmentally-friendly option.

Modifying existing formulations with polysaccharide resins improves surface adhesion and early hardness. The recoatability and ease of removal of the stain or marking can be adjusted, and various application methods, including brush, roller, or aerosols, are possible. These stains are compatible with ColourFal Zerø® colourants. A wide range of colour options is easily achievable.



Construction

Lorama Tape Binder (LTB®) enables manufacturers to produce 100% bio-based joint compounds, skim coats, and tile adhesives suitable for wallboard, tape, and cementitious surfaces. Serving as a binder in these systems, it provides strength and hardness upon drying without cracking. Additionally, it improves rheology, facilitating easier application, better sanding characteristics, and strong adhesion to reinforcing tape.

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Find the right LPRT for you

Watch video

Agriculture

LPRT-modified formulations produce water-based, non-toxic solutions that are free from irritation and harmful odours. These formulations have various applications, such as agricultural field markings on grass and trees, and greenhouse shade coatings. Additionally, LPRT can be used for seed markings or seed identification coatings, as well as for marking farm animals.

Automotive & Foundry

Lorama Hi-LiTETM is an easy-to-use surface defect indicator that enhances inspection and quality control on surfaces such as glass, metal, and plastic. Upon application, it forms a high-gloss thin film that highlights defects when viewed from specific angles. The fast-drying and washable film allows for quick inspection and easy removal. Additionally, it is tintable, making defects easily visible. This is already utilized by numerous stamping and composite manufacturers.



We are here to help



Looking for a technical solution or raw material support?

Wherever you are, we'll reach you. With our global sales team, our distribution partners and our international labs, we are closer than you think.

Start by emailing us at info@lorama.com

- ✓ Formulation support
- ✓ On-site technical support
- ✓ On-site scale-up support
- Customized training programs
- √ Colour matching services
- ✓ Ongoing Research & Development

Industries we serve



Lorama Product Portfolio

Category		Product Name	Recommended System Water-Based Solvent-Based	
COLOURANTS		• COLOURFAL ZERØ®	•	Ø
ANTI-FOAM		• LAF® 120 • LAF® 231	Ø	•
pH STABILIZER		 LORAMINE™ PLUS pHLORA ZERØ™ 	◎	
POLYSACCHARIDE RESIN TECHNOLOGY		 ECØ® ECØ® 100 ECØ FLO® LORAMA Hi-LiTE™ INKRES® 33 LPR76® LPR® 221 LTB® 	OOOOOO	♥♥♥♥
RHEOLOGY MODIFIER		 FALGEL® 60 FALGEL® 90 RHEOFAL™101 RHEOFAL™102 RHEOFAL™301 	O	⊘
SPECIALTY ADDIT	TIVES	• LWD® 100	•	
RUTILE TITANIUM D	DIOXIDE	•TIOXITRON® LCT55	•	Ø
	Dispersant	• LDA® 600 • LDA® W4 • LDA® W5	⊘	•
DISPERSING AGENTS	Polymeric Dispersant	• LDA® 100 • LDA® 150 • LDA® 154 • LDA® 160 • LDA® 196		<!--</td-->
	Pigment Stabilizer	• LDA® 320 • LDA® 410 • LDA® 411 • LDA® 414	0 0 0	© © ©

Welcome To The Lorama Difference



Founded in 1977 and headquartered near Toronto, Canada, Lorama Group Inc. is both a manufacturer of Colour Dispersions & Bio-based Additives, as well as an international distributor of Specialty Chemicals and Functional Extenders. Through our entrepreneurial spirit and with deep expertise in global regulatory and raw material requirements, Lorama has grown to service a multitude of markets across over 90 countries.

Having in-depth technical expertise and the ability to fully deconstruct and rebuild formulations, Lorama Group is recognized worldwide for our knowledge and eagerness to help with paint formulation. In addition to having 5 global labs, our main laboratory powerhouse is situated near Toronto, housing our R&D, technical services and colour services group. Customers rely upon our 40 active chemists for commercially proven solutions through our wholistic consultative technical sales and service approach. For over 45 years we have supplied commercially cost-effective sustainable solutions, helping our customers thrive in highly competitive markets.

