

Printing & Packaging Industrial Coatings

Technical Data Sheet

Laromer[®] LR 9023



Product Description	Laromer [®] LR 9023 is an aromatic epoxy-modified acrylic resin for the formulation of energy curable coatings for wood, wood products, paper, and plastic applications. It can also be used in ink and OPV applications.
Key Features & Benefits	<ul style="list-style-type: none">- High reactivity- Low viscosity- Good flexibility- Excellent chemical resistance
Chemical Composition	Modified aromatic epoxy acrylate, 85% solution in Dipropylene glycol diacrylate

Properties

Typical Properties	Appearance	low – medium viscous liquid
	Acid value (EN ISO 3682)	≤ 5 mg KOH/g
	Viscosity at 23°C (ISO 3219 A)	2,000 – 5,000 cps
	Shear rate D	100 s ⁻¹
	Iodine color number (DIN 6162)	≤ 5
	Density (ISO 2811-3)	~ 1.16 g/cm ³
	Flash point (DIN EN ISO 2719)	> 100°C
Solubility, diluent tolerance	Soluble in all solvents common to the coatings industry with the exception of aliphatic solvents. For processing, it can be diluted with monomers such as Laromer [®] HDDA, Laromer [®] TMPTA, or Laromer [®] TPGDA as well as with esters, ketones, or aromatic hydrocarbons.	
Compatibility	Homogenously miscible with most unsaturated acrylic resins such as other Laromer [®] grades. These typical values should not be interpreted as specifications.	

Applications

Laromer[®] LR 9023 can be used solely or in combination with other unsaturated acrylic resins to formulate EB or UV curable coatings for wood, wood products, plastics, and paper applications. It is very viscoelastic and highly reactive.

Laromer[®] LR 9023 is recommended for applications such as:

- Interior/exterior general industrial metal coating applications
- Interior/exterior plastic components coating applications
- Interior/exterior wood coatings for floor, furniture, or millwork applications
- Printing inks for flexographic, gravure, digital, or silk-screen applications
- Overprint varnishes for commercial, publication, or packaging applications

Processing

Laromer® LR 9023 can be thinned further for processing with low volatile monomers such as mono-functional, di-functional, and tri-functional acrylates or with low viscous polyether acrylates such as Laromer® LR 8863, Laromer® PO 43 F, or Laromer® LR 8967. Since the monomers are incorporated into the film, they affect the properties of the coating. Mono-functional acrylates increase the coating's

flexibility; di-functional acrylates have little effect on hardness and flexibility; tri-functional acrylates increase hardness.

With an adequate flash-off zone available, inert solvents may also be used. These must, however, be completely removed from the film prior to energy curing.

A suitable photoinitiator must be used to cure Laromer® LR 9023 with UV energy such as Darocur® 1173, Darocur® BP, Irgacure® 184, Irgacure® 819, Irgacure® 2100, Lucirin® TPO, and Lucirin® TPO-L for typical coating applications. The amount of photoinitiator varies between 2 – 5% based on Laromer® LR 9023 as delivered.

Alpha-hydroxy ketones such as Darocur® 1173 or Irgacure® 184 combined with Lucirin® TPO are suitable photoinitiators for film thicknesses above 50 g/cm². Good results in thinner films are obtained with a combination of Benzophenone or Irgacure 500 and co-initiators.

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State, and Local health and safety regulations, thorough ventilation of the workplace, good skin care, and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Laromer® LR 9023.

Important

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