

Printing & Packaging

Industrial Coatings

Technical Data Sheet

Laromer® PR 9013

(old: Laromer® LR 9013)



Product Description	Laromer® PR 9013 is an all purpose dispersing oligomer for the formulation of energy curable offset, flexographic, and silk-screen printing inks as well as coatings for paper, wood, and wood product applications.
Key Features & Benefits	<ul style="list-style-type: none">- Excellent pigment wetting- Good flexibility- Good reactivity- Low shrinkage
Chemical Composition	Modified polyether acrylate

Properties

Typical Properties	Appearance	slightly yellow liquid
	Acid value (DIN 53402)	≤ 5 mg KOH/g
	Viscosity at 23°C (DIN EN ISO 3219)	45,000 – 70,000 cps
	Shear rate D	25 s ⁻¹
	Iodine color number (DIN 6162)	≤ 5
	Density at 20°C (ISO 2811-1)	~ 1.100 g/cm ³
	Flash point (ISO 2719, DIN 51758)	> 100°C

Solubility, diluent tolerance To formulate low viscosity printing inks or coatings, it can be diluted with reactive diluents such as Laromer® TPGDA, Laromer® DPGDA, Laromer® HDDA, Laromer® TMPTA, low viscous oligomers (such as Laromer® LR 8863, Laromer® PO 33 F, or Laromer® PO 43 F) or with esters, ketones, and aromatic hydrocarbons.

For the formulation of high viscosity printing inks, it can be mixed with epoxy acrylates such as Laromer® EA 8986 or with polyester acrylates such as Laromer® PE 55 F or Laromer® PE 56 F.

Compatibility Can be mixed homogeneously with most unsaturated acrylate oligomers or with other Laromer® grades.
These typical values should not be interpreted as specifications.

Applications

Laromer® PR 9013 is an unsaturated modified dispersion oligomer used to formulate energy curable pigment concentrates and energy curable offset, flexographic, or silk-screen printing inks. Inks based on Laromer® PR 9013 are characterized by an excellent yield value even at high pigmentation levels, high gloss, excellent run-ability, little moisture expansion; they cure to produce low odor films.

Laromer® PR 9013 can also be used to formulate coatings for paper, plastic films, metals, wood, and wood products. In energy curable coatings for wood or wood products, it reduces absorption into the substrate. Films show little shrinkage and good wetting.

Laromer® PR 9013 is recommended for applications such as:

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

Processing

Laromer® PR 9013 can be diluted further for processing with low volatile monomers such as mono-functional, di-functional, and tri-functional acrylates. These monomers are incorporated into the film and thus affect the properties of the coating. Mono-functional acrylates increase film flexibility; di-functional acrylates have little effect on hardness and flexibility; tri-functional acrylates increase hardness.

If sufficient flash-off room is available, Laromer® PR 9013 can also be diluted with inert solvents such as butyl acetate, but they must be completely removed from the coating before it is exposed to energy.

A suitable photoinitiator must be used to photocure Laromer® PR 9013. The photoinitiator types include, for example, α -hydroxy ketone, benzophenone, acyl phosphine oxide, and blends thereof, for typical coating applications. Depending on the application method, the selection of different photoinitiators may be required for ink formulations.

To increase reactivity especially in thin films, a tertiary amine like methyl diethanolamine or an amine modified polyether acrylate synergist can be added to the formulation, except for offset application. Great care must be taken to check that the amine in this mixture does not enter into an interaction with the substrate, particularly pale ones. Testing prior to use is highly recommended.

Please contact the local BASF technical specialist for further details.

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® PR 9013.

Important

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