

Printing & Packaging

Industrial Coatings

Technical Data Sheet



Laromer[®] PO 94 F

Product Description	Laromer [®] PO 94 F is a liquid modified acrylate oligomer for the formulation of energy curable printing inks and coatings for wood, wood products, paper, and plastic applications.
Key Features & Benefits	<ul style="list-style-type: none">- Very high reactivity- Good pigment wetting- Low viscosity- Good surface cure properties
Chemical Composition	Amine-modified polyether acrylate

Properties

Typical Properties	Appearance	clear, low viscous liquid
	Acid value (DIN EN ISO 2114, method B)	≤ 0.5 mg KOH/g
	Viscosity at 23°C (DIN EN ISO 3219)	450 – 750 mPas
	Shear rate D	2,000 s ⁻¹
	Iodine color number (DIN 6162)	≤ 2
	Density at 25°C (DIN 51757, method 4.3)	~ 1.10 g/cm ³
	Flash point (DIN EN ISO 2719)	> 100°C
Solubility, diluent tolerance	Soluble in all common paint solvents except for aliphatic hydrocarbons.	
	For the formulation of low viscosity inks or coatings they, can be diluted with monomers such as Laromer [®] HDDA, Laromer [®] TMPTA, Laromer [®] DPGDA, and Laromer [®] TPGDA or with esters, ketones, and aromatic hydrocarbons.	
Compatibility	Can be homogenously mixed with most unsaturated acrylate oligomers such as other Laromer [®] grades.	
	These typical values should not be interpreted as specifications.	

Applications

Laromer[®] PO 94 F is an amine-modified polyether acrylate containing amino groups. Owing to its high reactivity, it is frequently combined with other energy curable resins to increase the reactivity of the formulation.

Laromer[®] PO 94 F offers low viscosity and the highest reactivity, making it useful in a variety of applications. In addition, it can be used as a sole binder in low viscosity, highly reactive inks or coatings.

Laromer[®] PO 94 F is recommended in applications such as:

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

Recommendations

Due to its amine modification Laromer®PO 94 F imparts enhanced reactivity, especially when using H-abstraction Type II photoinitiators (i.e., Irgacure® BP, Irgacure® 500 or Irgacure® MBF, Irgacure® 754, etc). It also enhances the reactivity of Type I photoinitiators (i.e., Irgacure® 127, Irgacure® LEX 201, Irgacure® 819, Irgacure® 2100, etc.), thereby minimizing oxygen inhibition and enhancing surface curing of thin layers.

Processing

Laromer® PO 94 F can be further diluted with low-volatile monomers such as mono-functional, di-functional, or tri-functional acrylates. These are incorporated into the film during curing and thus influence its properties. Mono-functional acrylates increase film flexibility; di-functional acrylates have little influence on film hardness and flexibility; tri-functional acrylates increase film 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 added to allow curing by ultraviolet energy, such as Lucirin® TPO, Lucirin® TPO-L, Darocur® 1173, Irgacure® 184, Irgacure® 500, and Benzophenone. Depending on the application method, the selection of different photoinitiators may be required for ink formulations. Lucirin® TPO and Lucirin® TPO-L are recommended for film thicknesses above 50 g/cm² to ensure through curing.

A tertiary amine as co-initiator is not necessary. This is a significant advantage, particularly in cases where a low odor level after curing is specified or if migration (sweating) of a non-crosslinked tertiary amine constituent to the surface must be avoided.

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® PO 94 F.

Important

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