

# Industrial Coatings Printing & Packaging

Technical Data Sheet

## Laromer® PE 9079



<b>Product Description</b>	Laromer® PE 9079 is a polyester acrylic resin for the formulation of energy curable inks and coatings for wood, wood products, and plastic.
<b>Key Features &amp; Benefits</b>	<ul style="list-style-type: none"><li>- Free of reactive thinners</li><li>- High viscosity</li><li>- Pronounced elasticity and toughness</li></ul>
<b>Chemical Composition</b>	Polyester acrylate resin, free of reactive thinners

### Properties

#### Typical Properties

Appearance	highly viscous liquid
Acid value	≤ 5 mg KOH/g
Viscosity at 23°C (73°F)	78,500 cps
Iodine color number	≤ 5
Density at 20°C	~ 1.15 g/cm <sup>3</sup>
Flash point	> 100°C

#### Solubility, diluent tolerance

To reduce its viscosity and for further processing, it can be thinned with hexanediol diacrylate, trimethylolpropane triacrylate, tripropyleneglycol diacrylate, dipropyleneglycol diacrylate, or low viscosity polyether acrylates.

It can be thinned with many solvents common to the coatings industry, such as esters, ketones, or aromatic hydrocarbons. Due to its limited compatibility, aliphatic hydrocarbons are not recommended.

#### Compatibility

Laromer® PE 9079 can be mixed homogenously with most unsaturated acrylic resins, e. g., other Laromer® acrylic resins.

These typical values should not be interpreted as specifications.

### Applications

Laromer® PE 9079 has a balanced property profile such that it can be used as a sole binder or in combination with other energy curable resins to formulate coatings curable by UV light or electron beam. Pronounced elasticity/toughness of UV cured coatings based Laromer® PE 9079 provides an interesting profile of mechanical properties demanded in many applications.

Laromer® PE 9079 distinguishes itself by its high viscosity and thus is suitable for applications such as offset printing inks and higher viscosity roller coatings.

#### Processing

Laromer® PE 9079 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.

Thinning Laromer® PE 9079 with monomers allows it to also be used in low viscosity applications.

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® PE 9079 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® PE 9079 as delivered.

To increase the reactivity in thin films, a tertiary amine such as methyl diethanolamine or an amine synergist can be added in combination with a photoinitiator to formulations. Care must be taken to ensure that the amine does not react with the substrate, particularly pale colored ones.

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## 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® PE 9079.

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## Storage

Properly stored and protected from light and heat, an unopened original container of Laromer® PE 9079 can be stored for 12 months. Store at temperatures below 30°C (86°F).

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### U.S & Canada

BASF Corporation  
24710 W Eleven Mile Road  
Southfield, MI 48033  
ph: 1(800) 231-7868  
fax: 1(800) 392-7429  
Email: [Custserv\\_charlotte@basf.com](mailto:Custserv_charlotte@basf.com)  
Email: [edtech\\_info@basf.com](mailto:edtech_info@basf.com)  
[www.basf.us/dpsolutions](http://www.basf.us/dpsolutions)

### Mexico

BASF Mexicana, S.A. de C.V.  
Av. Insurgentes Sur # 975  
Col. Ciudad de los Deportes  
C.P. 03710  
Mexico, D.F.  
Phone: (52-55) 5325-2756  
Fax: (52-55) 5723-3011