

Printing & Packaging

Industrial Coatings

Technical Data Sheet

Laromer® LR 8863



Product Description	Laromer® LR 8863 is a polyether-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">- Good adhesion- Good flexibility while maintaining high hardness- Fast cure speed- Good pigment wetting- Low viscosity and excellent diluent
Chemical Composition	Ethoxylated trimethylolpropane triacrylate (TMPEOTA)

Properties

Typical Properties	Appearance	clear, low to medium viscous liquid
	Acid value (DIN EN ISO 2114, method B)	≤ 0.5 mg KOH/g
	Viscosity at 23°C (ISO 3219 A)	50 – 100 cps
	Shear rate D	6,700 s ⁻¹
	Iodine color number (DIN 6162)	≤1
	Density at 25°C (DIN 51757, method 4.3)	~1.106 g/cm ³
	Flash point (DIN EN ISO 2719)	> 100°C
	Refractive Index n _D at 25°C	1.472
Solubility, diluent tolerance	For the formulation of low viscosity inks or coatings, it 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 homogeneously mixed with most unsaturated acrylate oligomers such as other Laromer® grades.	
	These typical values should not be interpreted as specifications.	

Applications

Laromer® LR 8863 is used as a reactive diluent in higher viscosity resins such as polyester acrylate, epoxy acrylates, or urethane acrylates.

Laromer® LR 8863 is recommended for use in energy curable flexographic, screen, and offset inks and overprint varnishes. It provides good pigment wetting characteristics and flexibility without sacrificing cure rate. Cured inks and overprint varnishes formulated with Laromer® LR 8863 provide good resistance properties and hardness.

Laromer® LR 8863 is recommended for applications such as:

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

Processing

Laromer® LR 8863 can be combined with other acrylate oligomers, serving as a reactive diluent. The properties of the cured films can be influenced by combinations with suitable resins with higher viscosity, such as polyester acrylates, epoxy acrylates, or urethane acrylates.

Laromer® LR 8863 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 used to photocure Laromer® LR 8863. The photoinitiator types include, for example, α -hydroxy ketone, benzophenone, acyl phosphine oxide, and blends thereof, for typical coating applications. The selection of different photoinitiators may be required for ink formulations. Acyl phosphine oxide types (MAPO, MAPO-Liquid and BAPO) of photoinitiators are recommended for film thicknesses of 50 g/cm² to ensure through curing.

For thin ink or coating layers formulated with Laromer® LR 8863, good surface hardness can be achieved by a combination of MAPO, benzophenone, and a reactive tertiary amine in a ratio of 1:2:3. With pale substrates in particular, this combination must be carefully tested for interaction of the amine with the substrate.

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® LR 8863.

Important

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