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Laromer[®] PO 94 F

This development product is an unsaturated resin containing amino groups. It is intended for the production of radiation-curable coatings for paper, wood, wood-based materials, plastics and printing inks.

Laromer® PO 94 F

Nature Unsaturated acrylic resins (polyether acrylate containing amino groups)

Properties

Physical form	Low viscous unsaturated acrylic resin		
Product specification	Viscosity at 23 °C (DIN SO 3219 shear gradient D = 250 s ⁻¹)	mPa·s	300 - 600
	Acid value (DIN 53 402)	mg KOH/g	max. 3
	Iodine color (DIN 6162)		max. 3
Other properties	Flash point ISO 2719, DIN 51 758)	°C	> 100
	Mass density at 20 °C ISO 2811, DIN 53 217)	g/cm ³	ca. 1.1

Solubility Diluent tolerance

Laromer PO 94 F is soluble in all common paint solvents with the exception of aliphatic hydrocarbons.

In the production of low-viscous radiation curable coatings and inks, it can be diluted with monomers such as hexanediol diacrylate, tripropylene glycol diacrylate, dipropylene glycol diacrylate and trimethylolpropane triacrylate.

Compatibility

Laromer PO 94 F is compatible with most unsaturated acrylic resins, i.e., with other Laromer resins.

Application

Laromer PO 94 F is an unsaturated acrylic resin that contains amino groups. It is used both as a highly reactive sole binder and in combination with other radiation curable unsaturated resins to increase their reactivity.

Laromer PO 94 F will be mainly used in the manufacture of low viscosity coatings, (e.g., spray application, vacuum coatings, screen and flexo inks).

Cured coatings based on Laromer PO 94 F are hard and have very good resistance to chemicals.

Laromer PO 94 F can be used as a sole binder in the production of low-viscosity, highly reactive radiation-curable paper coatings, screen inks and flexo inks.

Processing

Laromer PO 94 F can be further diluted for application. Low volatile monomers are suitable for the purpose, i.e., monofunctional, difunctional, and trifunctional acrylates. Since the monomers are incorporated in the coating, they affect its properties.

Monofunctional acrylates yield flexible coatings but usually exert an adverse effect on the reactivity. Difunctional acrylates have little influence on the reactivity and the coatings hardness. Trifunctional acrylates increase the hardness

If sufficient space is available for flash-off, Laromer PO 94 F can also be diluted with inert solvents, but they must be completely removed from the coating before it is exposed to radiation.

Before Laromer PO 94 F is cured by ultraviolet radiation, a photoinitiator has to be added. Suitable initiators are Irgacure[®] 651, Irgacure 500, Irgacure 184, Darocur[®] 1173 (Irgacure and Darocur are registered trademarks of Ciba-Geigy), Esacure[®] KIP 100 F (registered trademark of Lamberti, Italy) and benzophenone. The proportion depends on the reactivity required and varies between 2% and 5 %.

For UV-coatings with low odor, the best results are achieved with a mixture of Lucirin TPO or Lucirin LR 8893 in combination with a substituted benzophenone (e.g., Esacure TZT) in the ratio 1:9 or 2:8. Depending on the required cure speed, the amount of this initiator mixture should be approx. 4-7 %.

The fact that a tertiary amine cointiator is unnecessary is a great advantage if a low odor level during curing is specified or if migration (sweating) of an uncrosslinked tertiary amine constituent to the surface has to 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.

Material Safety Data Sheet

All safety information is provided in the Material Safety Data Sheet for Laromer PO 94.

Industrial hygiene

Laromer PO 94 F is not a skin irritant, but may irritate mucous membranes. Therefore, safety precautions relating to irritants must be observed in processing it. In particular, safety goggles must be worn to avoid contact with mucous membranes.

Contaminated clothing must be changed immediately. Any resin, coating or ink that comes in contact with the skin must be washed off immediately with plenty of soap and water. Any splashes in the eyes or on the mucous membranes must be washed off immediately, and flushing must be continued for fifteen minutes. Afterwards, medical advice should be sought.

Labelling

Laromer PO 94 F is not classified as a hazardous product under DOT or OSHA regulations or as a controlled product under WHIMS (Canada) regulations. It does not contain any hazardous components at levels which have implications for labelling under these regulations.

Storage

Laromer PO 94 F has a shelf life of six months provided it is stored in a cool place and is protected from freezing. Technical information regarding the storage of BASF polymer dispersion products is available on request.

Important

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