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Laromer® PA 9083

General	Laromer® PA 9083 is an acrylated phosphoric acid ester. Due to the high acid value and the phosphorus content of approx. 12 % it acts as an excellent adhesion promoter and flame-retardant co-binder in UV curable coatings.
Key features & benefits	achieves excellent adhesion on metal and plastic flame-retardant (halogen-free) use as a co-binder
Chemical nature	acrylated phosphoric acid ester

Properties

Appearance low viscous liquid

Typical characteristics
(should not be interpreted as specifications)

viscosity at 25°C	1250~3500 mPa·s
acid value	180 mg KOH/g solids
colour (Gardner)	≤ 3
density at 25°C	1.28 g/mL
phosphorus content by weight	12%

Application

solubility, compatibility

Laromer® PA 9083 is used as a co-binder in radiation-curable coatings, where it improves adhesion on metal and various plastic substrates. Laromer® PA 9083 can be also added as halogen-free flame retardant.

Its methacrylate groups cause Laromer® PA 9083 to be, by exposure to UV light, chemically incorporated into the network of the cured film.

The good compatibility with most UV-curable resins and monomers results in clear and transparent coatings and cured films. In combination with highly flexible urethane acrylates (e.g., Laromer® UA 9033 N) and monofunctional monomers (e.g., Laromer® TBCH) outstanding adhesion to metallic substrates as well as many plastics can be obtained. The recommended amount of Laromer® PA 9083 is 3%~12% by weight based on the solids content of the formulation.

Laromer® PA 9083 also acts as a flame retardant, it is halogen-free. To achieve a good level of flame retardation, e.g., in UV primers for parquet flooring, the dosage rate should be at least 10% by weight based on the solids content of the formulation.

A suitable photoinitiator must be used to photocure Laromer® PA 9083. The photoinitiator types include, for example, α-hydroxy ketone, benzophenone, acyl phosphine oxide, and blends thereof, for typical coating applications. The amount of photoinitiator varies between 2%~5% based on Laromer® PA 9083 as delivered. Acyl phosphine oxide types (MAPO, MAPO-Liquid and BAPO) of photoinitiators are recommended for film thicknesses of 50 g/cm² and more to ensure through curing.

Storage

Product ought to be kept within sealed unopened containers. Containers should be stored below 35 °C and away from sunlight.

For further detailed application information please contact our Technical Support Department.

Safety
When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note
The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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