

# Laromer<sup>®</sup> UA 9047

**Product description** Laromer<sup>®</sup> UA 9047 is a urethane acrylate oligomer useful in ultraviolet (UV) and electron beam (EB) curing compositions. It is a useful component in wood coating formulations and roller coat varnishes as well as UV-inks.

**Key benefits**

- Scratch resistant
- Physical drying properties
- Weather resistant
- High functionality

**Chemical nature** Aliphatic urethane acrylate, 70 % solution in butyl acetate.

## Properties

**Physical form** Clear, medium-viscous liquid.

<b>Technical data</b> (not supply specification)	Viscosity at 23 °C, D = 100 s-1	DIN EN 12092	~ 4.5 Pa.s
	Iodine color number	DIN EN 1557	<= 2
	Non-volatile components	DIN EN ISO 3251	~ 70 %
	Density at 20 °C		~ 1.08 g/cm <sup>3</sup>
	Flash point		> 26.5 °C

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## Application

### Solubility, compatibility

To formulate low-viscous coatings (e.g. spray viscosity) Laromer® UA 9047 can be diluted with all organic solvents common in the coatings industry with the exception of aliphatic hydrocarbons. Furthermore Laromer® UA 9047 is compatible with acrylic and methacrylic monomers (e.g. hexanediol diacrylate, tripropylenglycol diacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, ...) serving as reactive thinners or other types of UV-resins like polyether-, polyester-, epoxy- or urethane acrylates.

### Fields of application

Laromer® UA 9047 is resistant to yellowing, weathering and suitable for a wide choice of applications like inks (specially screen inks) and coatings. Its high acrylic functionality is reflected by very good resistance to chemicals and scratching. To reach the high performance the solvent (butyl acetate) needs to be evaporates first before crosslinking via UV- or EB-radiation.

A suitable photoinitiator must be used to photocure Laromer® UA 9047. The photoinitiator types include, for example,  $\alpha$ -hydroxy ketone, benzophenone, acyl phosphine oxide, and blends thereof, for typical coating applications. The amount of photoinitiator varies between 2 – 5 % based on Laromer® UA 9047 as delivered.

Acyl phosphine oxide types (MAPO, MAPO-Liquid and BAPO) of photoinitiators are recommended for film thicknesses of 50 g/cm<sup>2</sup> to ensure through curing.

To achieve highest possible resistance, it is of advantage if the cross-linking (exposure to the UV-lamp) is done at increased temperature and/or oxygen reduced atmosphere.

The physical drying property allows special processing such as deforming of the "dried" film before cross-linking via UV- or EB-radiation.

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## Storage

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

### 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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Resins & Additives (Europe)  
67056 Ludwigshafen, Germany  
[www.basf.com/resins](http://www.basf.com/resins)