

Industrial Coatings

Technical Data Sheet

Laromer® UA 9064 Aqua

(old: Laromer® UA 9064)



Product Description	Laromer® UA 9064 Aqua is a liquid urethane acrylate dispersion. It can be used in energy curable resin formulation for coating applications, such as wood, wood products, paper and plastic.
Key Features & Benefits	<ul style="list-style-type: none">- very good chemical resistance- fast drying- excellent scratch resistance- very little yellowing- tack-free before UV curing step
Chemical Composition	Water based urethane acrylate dispersion

Properties

Typical Properties	Appearance	Opaque liquid with low viscosity
	Solid content	38%
	Viscosity at 23°C (DIN EN ISO 3219)	mPa s 20 - 250
	Shear rate D	s ⁻¹ 50
	pH	~ 7.5
	Density at 20°C (ISO 8962, DIN 53217)	g/cm ³ ~ 1.065
	Sensitivity to frost (ISO 2811, DIN 53217)	< 0 °C (32 °F)
	Average particle size	µm < 150

Diluent tolerance, viscosity Adjustment and compatibility For processing, Laromer® UA 9064 Aqua can be further diluted with DI water. It shows a very good compatibility with other UV curable dispersions (e.g. Laromer® UA 9005 Aqua and Laromer® UA 9095 Aqua) and conventional dispersions (e.g. Joncryl® 1992, and Joncryl® 8330). For viscosity and rheology improvement we recommend thickeners from BASF (e.g. Rheovis® PE 1330; high-shear thickener; slightly pseudoplastic) and Rheovis® PU 1250 NC; urethane mid-shear thickener; slightly pseudoplastic).

Applications

Since Laromer® UA 9064 Aqua is a fast-drying dispersion, it is suitable for 3D objects where shadow areas receive only a low UV dose. Since it has excellent physical drying properties, formulations based on Laromer® UA 9064 Aqua give tack-free films after physical drying; coatings which are resistant to blocking and household chemicals are only formed after radiation curing

Coatings based on Laromer® UA 9064 Aqua dry very quickly. Scratch and chemical resistances, as well as physical properties, are on a high level. In coatings formulations containing Laromer® UA 9064 Aqua, the addition of a coalescent can be omitted to obtain zero-VOC coatings.

Coatings based on Laromer® UA 9064 Aqua show very little yellowing and are therefore suitable for white pigmented coatings.

Laromer® UA 9064 Aqua dries physically. Prior to radiation curing, all water needs to be removed from the film in order to prevent turbid and mechanically unstable coatings. To obtain optimum results, the UV-curing step should follow immediately after water evaporation.

For UV curing, photoinitiator needs to be added. The photoinitiator types include, for example, α -hydroxy ketone and α -hydroxy ketone/benzophenone blends. Liquid photoinitiators can be stirred in easily. Crystalline photoinitiators must be dissolved in the coating. The amount of photoinitiator varies between 1 – 3% calculated on solid dispersion.

For film thicknesses above 50 g/m² and for pigmented coatings we recommend the additional acyl phosphine oxide types (MAPO, MAPO-Liquid and BAPO) photoinitiators. It improves the through curing by adding 0.2% – 1.0 % calculated on solid dispersion.

With the recommended photoinitiators we expect no problems during the drying process of the dispersion caused by volatility of the initiators.

UV curable coating formulations containing photoinitiators should be stored in UV-impermeable plastic containers.

Recommended Starting Point Formulation

Low Gloss Clear Topcoat

Material	Pounds
Laromer® UA 9064 Aqua	75.8
Omnirad 500	1.0
Acematt 3300	2.0
Hydropalat® WE 3370	0.8
Foamstar® ST 2438	0.5
Rheovis® PU 1191	0.6
Wetting Agent	0.5
DI Water	18.8
<i>Total</i>	<i>100.0</i>

One possible wetting agent is Hydropalat® WE 3475.

Solids, 33.14% by weight, 32.05% by volume. Calculated VOC 11.50 g/L (0.10 lb./gal).

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® UA 9064 Aqua.

Storage

According to our experience, Laromer® UA 9064 Aqua can be stored for 6 months from the date of delivery if kept in tightly sealed containers and protected from light and at temperatures 10°C – 35 °C (50 – 95 °F). Laromer® UA 9064 Aqua should not come into contact with metals or alloys sensitive to corrosion. Containers should be tightly sealed. The air space in storage tanks should always be saturated with water vapor.

Important

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