

Laromer[®] UA 8983 Aqua

Product Description	Laromer UA 8983 Aqua is a liquid aromatic polyurethane dispersion. It can be used in energy curable resin formulation for coating applications, such as wood, wood products, and plastic.
Key Features & Benefits	<ul style="list-style-type: none">- Excellent physical drying properties- Good resistance to household chemicals, and block- Good balance of hardness and flexibility- Suitable for 3-D objects
Chemical Composition	Water based aromatic urethane acrylate dispersion

Properties

Typical Properties	Appearance		clear, low viscous liquid
	Nonvolatile matter (DIN EN ISO 3251)	%	~ 42
	pH at 23°C (DIN ISO 976)		~ 8
	Viscosity at 23°C (DIN EN ISO 3219)	cps	~ 300
	Shear rate D	s ⁻¹	250
	Average particle size	nm	~ 50
	Density at 20°C (DIN EN ISO 2811)	g/cm ³	~ 1.00
	Minimum film forming temperature (DIN ISO 2115)	°C	~ 0

These typical values should not be interpreted as specifications.

Applications

Due to its good physical drying, formulations based on Laromer UA 8983 Aqua are suitable for the coating of 3-D objects, where the full energy dose cannot be achieved during the UV curing process. These formulations lead to tack-free films with limited mechanical properties that are only obtained by UV curing.

Coating formulations based on Laromer UA 8983 Aqua exhibit good resistance to household chemicals and block as well as provide a good balance between hardness and flexibility. The preferred methods of application are curtain coating and spraying. An economic feature of Laromer UA 8983 Aqua is its ability to be recovered from the overspray of ultrafiltration.

Laromer UA 8983 Aqua is recommended for applications such as:

- Interior/exterior general industrial metal coating applications
- Interior/exterior plastic components coating applications
- Interior/exterior wood coatings for floor, furniture, or millwork applications

Processing

Aqueous binders tend to form serum - water will evaporate in the container and condensate on the surface. The products should therefore be homogenized before use. No coalescent agents are required in coatings based on Laromer UA 8983 Aqua, allowing the manufacture of zero VOC coatings.

Laromer UA 8983 Aqua can be mixed with other emulsions, however, the pH should be observed. Formulations based on Laromer UA 8983 Aqua can be colored with aqueous pigment preparations such as Luconyl® or stir-in pigments such as Xfast®.

Coatings should be allowed to thoroughly dry before UV curing to warrant adequate mechanical and chemical resistances. The drying temperature depends on the substrate and the film thickness. For best results, UV curing should occur immediately after physical drying.

A suitable photoinitiator must be used to photocure Laromer UA 8983 Aqua. The photoinitiator types include, for example, α -hydroxy ketone, benzophenone, acyl phosphine oxide, and blends thereof, for typical coating applications. Liquid photoinitiators can be incorporated directly; powder types should be pre-dissolved in a suitable organic solvent, such as ethylene glycol monobutylether (EB). The amount of photoinitiator varies between 1 – 3% based on the desired Laromer UA 8983 Aqua as delivered.

Extra 0.2 – 1.0 % of acyl phosphine oxide types (MAPO, MAPO-Liquid and BAPO) of photoinitiators are recommended for film thicknesses of 50 g/cm² and above and for pigmented UV systems.

In UV curable coatings, the photoinitiators' volatility should be observed. No tack-free films will have formed after evaporation of the water. Preparations containing photoinitiators should be stored in UV-impermeable plastic containers.

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 8983 Aqua.

Storage

Please refer to the "Handling and Storage of Polymer Dispersions" brochure.

Important

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