

Bayhydrol[®] UV 2280

Characterization

Urethane acrylate dispersion.

Bayhydrol[®] UV 2280 is used in the formulation of aqueous UV-curing coatings. Because of its very good initial physical drying, it is particularly suitable for use in aqueous pigmented UV-curing coatings.

Form supplied

approx. 39 % dispersion in water

Specification

Property	Value	Unit of measurement	Method
Non-volatile content (1 g/1 h/125 °C, convection oven)	38 - 40	%	DIN EN ISO 3251
Flow time at 23 °C, 4 mm cup	12 - 70	s	Bayer analytical method no. 2008/105 03 03-98 D
pH	6.8 - 8.2		DIN ISO 976

Other data*

Property	Value	Unit of measurement	Method
Appearance	colloidal		

*These values provide general information and are not part of the product specification.

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Solubility / thinnability

Bayhydrol[®] UV 2280 can be thinned with water.

Compatibility

The dispersion can only be formulated and applied in the pH range above 6.7. It is recommended that the pH is adjusted with an amine e.g. triethyl amine.

Bayhydrol[®] UV 2280 has very good compatibility with many dispersions, including UV-curing products. After adjusting the pH to > 6,7, the compatibility should always be tested. The product has limited compatibility with allyl polyester emulsions.

No problems are experienced with the use of solvents which usually should only be necessary as additives.

Properties / Applications

Bayhydrol[®] UV 2280 is used in the formulation of aqueous UV-curing coatings, especially for application on wood/wood materials. Generally speaking, the coated surfaces can be sanded before UV curing.

Additions of 1 - 2.5 % by wt. photoinitiator, calculated on the solid binder, have proved suitable for initiating the curing reaction.

The viscosity is adjusted by the addition of polyurethane thickeners.

If antifoams are used, they should be thinned in solvents, especially if application is by curtain coating.

Matting agents and additives can be dispersed directly in the product using a dissolver. Bayhydrol[®] UV 2280 is easily matted using standard matting agents.

As a rule, the coatings should be colored using aqueous pigment pastes.

After evaporation of the water, the coatings can be cured at a belt speed of up to 10 m/min per 80 W/cm lamp. Ga-doped lamps and special photoinitiators are normally used in the curing of pigmented systems. To ensure optimum curing, it is important that the film contains no water and that thermal predrying has taken place.

Depending on the formulation, the paint films are physically dry and sandable after evaporation of the water. However, they have no chemical or mechanical resistance. UV curing yields films with very good mechanical and chemical resistance.

Bayhydrol[®] UV 2280 is also characterised by its good adhesion on many metallic substrates.

Combination with Bayhydur[®] allows the formulation of aqueous dual-cure systems.



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Storage

- Storage in original sealed Covestro container.
- Recommended storage temperature: 5 - 30 °C.
- Protect from intense radiation (light, UV), heat and foreign material.

General information: The product is sensitive to frost. Freezing will damage the product irreversibly. Prolonged storage at higher temperatures may result in an increase of average particle size, risk of sedimentation, risk of pH-drift and ultimately coagulation. Even though the product is stabilized by a biocide, contamination with certain bacteria, fungi or algae may render the product unusable.

Storage time

Covestro represents that, for a period of six months following the day of shipment as stated in the respective transport documents, the product will meet the specifications or values set forth in section "specifications or characteristic data" above, what ever is applicable, provided that the product is stored in full compliance with the storage conditions set forth in and referenced under section "storage" above and is otherwise handled appropriately.

The lapse of the six months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Covestro recommends to test such a product if it still meets the specifications or the set values. Covestro does not make any representation regarding the product after the lapse of the six months period and Covestro shall not be responsible or liable in any way for the product failing to meet specifications or the set values after the lapse of the six months period.





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Labeling and statutory requirements

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently **valid Safety Data Sheet**.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

This product is not designated for the manufacture of a medical device or of intermediate products for medical devices¹⁾. [This product is also not designated for other specifically regulated applications (e.g. including cosmetics, plant protection, fertilisers, plant strengtheners, food processing, food contact and others). If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices or for other specifically regulated applications Covestro must be contacted in advance to provide its agreement to sell such product for such purpose.] Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by Covestro.

1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document.

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