

Bayhydur[®] ultra 305

Characterization

Hydrophilic aliphatic polyisocyanate based on hexamethylene diisocyanate (HDI).

As a hardener for aqueous two-component polyurethane systems.

Specification

Property	Value	Unit of measurement	Method
NCO content	16.2 ± 0,4	%	M105-ISO 11909
Viscosity at 23 °C	6,500 ± 1,500	mPa·s	M014-ISO 3219/A.3
Color value (Hazen)	≤ 150		M017-EN 1557
Monomeric HDI	< 0.10		M106-ISO 10283

Other data*

Property	Value	Unit of measurement	Method
Equivalent weight	approx. 260		
Density at 20 °C	approx. 1.16	g/ml	DIN 53217
Flash point	approx. 230	°C	DIN 53213

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

Bayhydur[®] ultra 305

Solubility / thinnability

Generally speaking, Bayhydur[®] ultra 305 has good compatibility with the organic solvents listed: esters, ether esters, xylene and solvent naphtha[®] 100. However, the solubility/compatibility should be tested in each individual case. Only PU grade solvents (< 0.05 % water) should be used.

Properties / Applications

Bayhydur[®] ultra 305 is a crosslinker for aqueous coatings. It was developed specially for trade applications where the ease of mixing the hardener by shaking or manual stirring is a key requirement. Despite pre-thinning, the coating yields transparent glossy films. The mixing ratio of mill base to hardener is usually 10 : 1.

Storage

- Storage in original sealed Covestro container.
- Recommended storage temperature: 0 - 30 °C.
- Protect from moisture, heat and foreign material.

General information: Hydrophilic isocyanates are very moisture-sensitive and react with water to form carbon dioxide and insoluble ureas. The containers must always be kept tightly closed. The access of water in all forms (moist air, solvents, moist containers) must be prevented, because the generation of carbon dioxide can lead to dangerous increases in pressure. Storage at higher temperatures will result in increase of color and viscosity. Due to the raw materials, the product may show visible turbidity caused by the cold. This turbidity occurs at approx. + 5 °C and is reversible when heated to room temperature. The product properties are not affected.

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**.

Further information The product is used mainly as a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual **monomeric HDI** requires appropriate protective measures referred to in the safety data sheet. These products may therefore be used only in industrial or trade applications. **They are not suitable for use in homemaker (DIY) applications.**

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 utilize 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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