Desmodur® ultra DN

Characterization

Hydrophilic aliphatic polyisocyanate based on hexamethyliisocyanat (HDI). Desmodur® ultra DN is a liquid and in aqueous polymer dispersions emulsifiable polyisocyanat. Occasional turbidity or coagulation is caused by small amounts of process additives. This does not influence the cured adhesive process or final properties. It can be used as a crosslinker for continuous ph-neutral aqueous polymer dispersions. Amongst others, polyurethane, polyvinyl acetate, polyacrylate, as well as synthetic rubber dispersions. The crosslinking process increases the adhesive consistency against warmth, water, plasticizers and numerous other solvents.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Property</th>
<th>Value</th>
<th>Unit of measurement</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCO content</td>
<td></td>
<td>21.8 ± 0.5</td>
<td>%</td>
<td>M105-ISO 11909</td>
</tr>
<tr>
<td>Viscosity</td>
<td>at 23 °C, Rotation</td>
<td>1,250 ± 300</td>
<td>mPa·s</td>
<td>M014-ISO 3219/A.3</td>
</tr>
<tr>
<td>Monomeric HDI</td>
<td></td>
<td>&lt; 0.10</td>
<td>%</td>
<td>M106-ISO 10283</td>
</tr>
</tbody>
</table>

Other data*

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit of measurement</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density at 20 °C</td>
<td>approx. 1.15</td>
<td>g/cm³</td>
<td>DIN 51 757</td>
</tr>
<tr>
<td>Flash point</td>
<td>approx. 218</td>
<td>°C</td>
<td>DIN 51 755</td>
</tr>
</tbody>
</table>

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

To ensure the optimum distribution of Desmodur® ultra DN, the adhesive dispersion must be stirred well by mechanical means. Manual stirring is not sufficient to ensure good homogenisation, especially in the case of low-viscosity adhesive dispersions. Inadequate dispersion may result in the formation of granular deposits in the adhesive.

After addition of Desmodur® ultra DN, the ready-to-use two-component adhesive must be used within the pot life. This is governed not only by the polymer content but also by the other constituents (resin, thickener, plasticiser, etc.). The end of the pot life – usually several hours – is not always marked by gelling. It can be established by determining the resistance properties of the bonds, above all the resistance to heat and water. An addition of 3 - 10 % by wt. Desmodur® ultra DN is recommended to crosslink 100 pbw of an adhesive dispersion with a polymer content of 40 - 60 % by wt. Desmodur® ultra DN is generally processed without further additives. Should Desmodur® ultra DN nonetheless be modified with an additive this may contain no groups which react with isocyanate and no secondary components which may do so. In particular, any additives used must be free of secondary components which are alkaline or have a catalytic effect on isocyanate groups. Even at a very low concentration these can cause an increase in viscosity or even solidification.

Storage

- Storage in original sealed Covestro container.

- Recommended storage temperature: 0 - 30 °C.

- Protect from moisture, heat and foreign material.

General information: The product is sensitive to moisture. Storage at higher temperatures will result in increase of color and viscosity. Storage at significant lower temperatures will result in solidification. This solidification is reversible by briefly heating the product without adversely affecting the quality of the product.
Desmodur® ultra DN

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 homeworker (DIY) applications.

Disposal
Please pay attention to the current 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. 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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