

Multranol[®] 4012

Characterization

Multranol 4012 is a 450-molecular-weight polypropylene oxide-based triol.

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|-------------------|-----------|-------------------------|---------|
| Property | Value | Unit of measurement | Method |
| Hydroxyl number | 350 - 390 | mg KOH/g | |
| Water | max. 0.05 | Wt. % | |
| Acid number | max. 0.25 | mg KOH/g | |
| Viscosity at 25°C | 520 - 700 | mPa•s | |

Other data*

| Property | Value | Unit of measurement | Method |
|--------------------------|-----------------------|---------------------|--------|
| Appearance | Clear, viscous liquid | | |
| Specific gravity at 25°C | 1.03 | | |
| Flash point PMCC | 188 | °C | |
| Bulk density at 25°C | 8.59 | lb/gal | |

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

Properties / Applications

Multranol 4012 is a 450-molecular-weight polypropylene oxide-based triol. It is typically used in the production of solid urethane elastomers and rigid polyurethane foams. As with any product, use of Multranol 4012 polyol in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

Storage

Multranol 4012 polyol is slightly hygroscopic and may absorb water. Containers should be kept tightly closed and protected from contamination with moisture and foreign materials, which can adversely affect processing. This product can become quite viscous at low temperatures. For ease of handling, storage temperatures between 15°C (59°F) and 60°C (140°F) are recommended.

The shelf life is twelve months after receipt of material by customer, when stored in sealed original containers under conditions stated above.

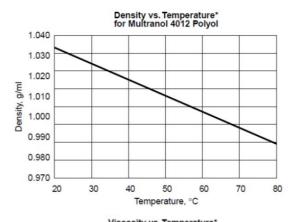


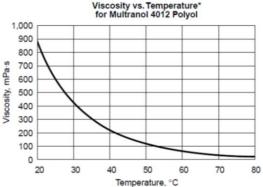
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Health and Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling this product. Before working with this product, you must read and become familiar with the available information on its risks, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., safety data sheets and product labels. For further information contact your Covestro LLC representative or the Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

Tables/Charts/Graphs





*Data presented in these charts are derived from a single sample and may vary from the typical properties information, which represents values derived by averaging data from various samples.



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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 and information 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 us. 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 as "Medical Grade" and therefore shall not be considered a candidate for the manufacture of a medical device or of intermediate products for medical devices, which are intended under normal use to be brought into direct contact with the patient's body (e.g., skin, body fluids or tissues, including indirect contact to blood). If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, Covestro LLC must be contacted in advance, in writing, 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 must be made solely by the purchaser of the product without relying upon any representations by Covestro LLC. For further information, please see the "Guidance on Use of Covestro Products in a Medical Application" document which can be located at www.productsafetyfirst.covestro.com

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