

For the demineralization of water in the production of ultra pure water (> 18 MOhm*cm at 25°C)

Lewatit® UltraPure 1296 MD is a ready-to-use mixed bed comprising a gel type strongly acidic cation exchange resin (SAC, **Lewatit® UltraPure 1216 MD**), and a gel type, strongly basic anion exchange resin (SBA, type I, **Lewatit® UltraPure 1243 MD**), individually with a monodispersed bead size distribution (uniform particles) based on a styrene-divinylbenzene copolymer for the use in polishing systems for the production of ultra pure water.

The monodisperse beads (uniformity coefficient: max. 1.1) are chemically and osmotically highly stable. The optimized kinetics lead to an increased operating capacity, and the very low content of fines also results in a low pressure drop compared to ion exchange resins with heterodisperse bead size distribution.

Lewatit® UltraPure 1296 MD is correspondingly adjusted to the total capacity of the individual components to an equivalent ratio of 1:1. The smaller bead size of the SAC contributes to better mixing properties.

Lewatit® UltraPure 1296 MD is highly regenerated and specially cleaned for meeting the specifications of the semiconductor industry. Leaching of organics from **Lewatit® UltraPure 1296 MD** into the treated water is reduced to a level less than **1.0 ppb**, and its resistivity achieves a level higher than **18 MOhm*cm**.

The special properties of this product can only be fully utilized if the technology and process used correspond to the current state-of-the-art and the operating conditions are adapted to the individual requirements. Further advice in this matter can be obtained from Lanxess, Business Unit Liquid Purification Technologies (LPT)

General Description

Ionic form as shipped	H ⁺ /OH ⁻
Functional group	Sulfonic acid / Quaternary amine
Matrix	Crosslinked polystyrene
Structure	Gel
Appearance	Brown, translucent

Specified Data

		metric units	
Uniformity Coefficient		max.	SAC 1.1 SBA 1.1
Mean bead size		mm	SAC 0.55 (+/- 0.05) SBA 0.60 (+/- 0.07)
Total capacity		min. eq/l	SAC H ⁺ 2.0 SBA OH ⁻ 1.1
Resistivity	ca. 80 BV, as a single component	min. MOhm*cm	18 (as mixed bed)
Delta TOC		max. ppb	1.0

Physical and Chemical Properties

		metric units	
Bulk density	(+/- 5 %)	g/l	700
Water retention		wt. %	SAC 45 - 50 SBA 60 - 65
Volume change	operational swelling	typical vol. %	- 15
Storability	temperature range	°C	4 - +24

This document contains important information
and must be read in its entirety.

Recommended Operating Conditions*

	metric units	
OPERATION		
Operating temperature	max. °C	40
Operating pH-range		0 - 14
Bed depth	min. mm	600
Specific pressure drop (15 °C)	approx. kPa*h/m ²	1.5
Pressure drop	max. kPa	150
Specific flow rate exhaustion	max. BV/h	8 - 48

* The recommended operating conditions refer to the use of the product under normal operating conditions. It is based on tests in pilot plants and data obtained from industrial applications. However, additional data are needed to calculate the resin volumes required for ion exchange units. These data are to be found in our Technical Information Sheets.

Additional Information & Regulations

Safety precautions

Strong oxidants, e.g. nitric acid, can cause violent reactions if they come into contact with ion exchange resins.

Toxicity

The safety data sheet must be observed. It contains additional data on product description, transport, storage, handling, safety and ecology.

Disposal

In the European Community ion exchange resins have to be disposed, according to the European waste nomenclature which can be accessed on the internet-site of the European Union.

Storage

It is recommended to store ion exchange resins at temperatures above the freezing point of water under roof in dry conditions without exposure to direct sunlight. If resin should become frozen, it should not be mechanically handled and left to thaw out gradually at ambient temperature. It must be completely thawed before handling or use. No attempt should be made to accelerate the thawing process.

This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

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