

PRODUCT INFORMATION

LEWATIT® UltraPure 1241 MD



For the demineralization of water in the production of ultrapure water.

Lewatit® UltraPure 1241 MD is a strongly basic, gelular type I anion exchange resin with a uniform particle bead size distribution based on a styrene-divinylbenzene copolymer for the use in WS/VWS systems for the production of ultrapure water. The monodisperse beads are chemically and osmotically highly stable. The optimized kinetics lead to an increased operating capacity compared to ion exchange resins with heterodisperse bead size distribution.

In the production of ultrapure water, leaching of organics from the resin into the treated water is reduced below **20 ppb**. Hence, the resin is specially recommended for the demineralization of water to ultrapure quality.

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. Further advice in this matter can be obtained from Lanxess, Business Unit Ion Exchange Resins.

General Description

Ionic form as shipped	Cl ⁻
Functional group	quaternary amine, type I
Matrix	crosslinked polystyrene
Structure	gel type beads
Appearance	yellow, translucent

Physical and Chemical Properties

	metric units	
Uniformity Coefficient*	max.	1.1
Mean bead size*	mm	0.60 (+/- 0.05)
Bulk density (+/- 5 %)	g/l	700
Density	approx. g/ml	1.08
Water retention	wt. %	48 - 55
Total capacity*	min. eq/l	1.3
Volume change Cl ⁻ --> OH ⁻	max. vol. %	22
Stability at pH-range		0 - 14
Storability of the product	max. months	12
Storability temperature range	°C	-20 - 40
TOC release (a. 80 BV) as single component	max. ppb	10

* Specification values subjected to continuous monitoring.

Recommended Operating Conditions*

		metric units	
Operating temperature		max. °C	70
Operating pH-range			0 - 12
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*m/h*m	1.0
Pressure drop		max. kPa	200
Linear velocity	operation	max. m/h	60
Linear velocity	backwash (20 °C)	approx. m/h	7
Bed expansion	(20 °C, per m/h)	approx. vol. %	11
Freeboard	backwash (extern / intern)	vol. %	80 - 100
Regenerant			NaOH
Counter current regeneration	level	approx. g/l	50
WS-System	concentration	approx. wt. %	2 - 4
Co current regeneration	level	approx. g/l	100
Co current regeneration	concentration	approx. wt. %	3 - 5
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
Rinse water requirement	slow / fast	approx. BV	3.5 / 10

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

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