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. 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 Liquid Purification Technologies.

Common Description

Delivery form	Cl^-
Functional group	Quaternary amine Typ1
Matrix	Styrenic
Structure	Gel
Appearance	Yellow, translucent

Specified Data

Uniformity coefficient		max.	1.1
Mean bead size	d50	mm	0.62 (+-0.05)
Total capacity (delivery form)		min. eq/L	1.3
Ultrapure water rinse test (resistivity)	after 80 BV rinsing	min. MOhm*cm	4
Ultrapure water rinse test	delta TOC after 80 BV	max. ppb	50

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	690
Density		approx. g/mL	1.08
Water retention (delivery form)		approx. weight %	48-55
Volume change (Cl^- -OH^-)		max. approx. %	24
Stability pH range			0-14
Storage time (after delivery)		max. years	2
Storage temperature range		°C	-20 - +40

Operation

Operating temperature		max. °C	70
Operating pH range	during exhaustion		0-12
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	11
Specific pressure loss kPa*h/m^2 (15°C)		kPa*h/m^2 (15°C)	1
Max. pressure loss during operation		kPa	200
Specific flow rate		max. BV/h	60

Regeneration

NaOH regeneration	concentration	approx. wt. %	2-6
NaOH regeneration	quantity co-current	min. g/L resin	80
NaOH regeneration	quantity counter-current	min. g/L resin	50
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		min. BV	2

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.

Packaging
The experience has shown that the packaging stability for reliable resin containment is limited to 24 months under the storage conditions described above. It is therefore recommended to use the product within this time frame; otherwise the packaging condition should be checked regularly.

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LENNTECH
WATER TREATMENT SOLUTIONS
info@lenntech.com Tel. +31-152-610-900
www.lenntech.com Fax. +31-152-616-289