PRODUCT INFORMATION
LEWATIT® MonoPlus M 800

Lewatit® MonoPlus M 800 is a strongly basic, gelular anion exchange resin with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer. Chemically and osmotically considered, the monodisperse beads are highly stable. The optimized kinetics lead to an increased operating capacity compared to ion exchange resins with heterodisperse bead size distribution.

Lewatit® MonoPlus M 800 is especially applicable for:

» conventional mixed bed application in combination with **Lewatit® MonoPlus S 100 H**, **Lewatit® MonoPlus S 108 H** or
Lewatit® MonoPlus S 200 KR
» polishing by a modern Lewatit® Multistep System
» condensate polishing in combination with **Lewatit® MonoPlus S 200 KR**

Lewatit® MonoPlus M 800 adds special features to the resin bed:

» high exchange flow rates during regeneration and loading
» good utilization of the total capacity
» low rinse water demand
» homogenous throughput of regenerants, water and solutions; therefore a homogeneous working zone
» nearly linear pressure drop gradient for the whole bed depth; therefore an operation with higher bed depth possible
» good separation behavior of the components in a mixed bed application

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 (LPT).

General Description

Ionic form as shipped	Cl^-
Functional group	Quaternary amine, type I
Matrix	Crosslinked polystyrene
Structure	Gel
Appearance	Yellow, translucent

Specified Data

	metric units	
Uniformity Coefficient	max.	1.1
Mean bead size	mm	0.59 (+/- 0.05)
Total capacity	min. eq/l	1.4

Physical and Chemical Properties

		metric units	
Bulk density	(+/- 5 %)	g/l	650
Density		approx. g/ml	1.08
Water retention		wt. %	45 - 50
Volume change	Cl^- --> OH^-	max. vol. %	18
Stability	at pH-range		0 - 14
Stability	temperature range	°C	-20 - +70
Storability	of the product	max. years	2
Storability	temperature range	°C	-20 - +40

Recommended Operating Conditions*

		metric units	
OPERATION			
Operating temperature		max. °C	70
Operating pH-range			0 - 12
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m²	1.0
Pressure drop		max. kPa	200
Linear velocity	operation	max. m/h	5 -120
REGENERATION, COUNTER-CURRENT			
Regenerant	type		NaOH
Regenerant	quantity	approx. g/l	50
Regenerant	concentration	wt. %	5 - 10
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
REGENERATION, CO-CURRENT			
Regenerant	type		NaOH
Regenerant	quantity	approx. g/l	100
Regenerant	concentration	approx. wt. %	3 - 5
Linear velocity		approx. m/h	5
Linear velocity	backwash (20 °C)	approx. m/h	7
Linear velocity	rinsing	approx. m/h	5
Rinse water requirement	slow / fast	approx. BV	10
Bed expansion	(20 °C, per m/h)	approx. vol. %	11
Freeboard	backwash (extern / intern)	vol. %	80 - 100
OPERATION, MIXED BED			
Bed depth		min. mm	600
REGENERATION, MIXED BED			
Regenerant	type		NaOH
Regenerant	quantity	approx. g/l	100
Rinse water requirement	slow / fast	approx. BV	2 / 5

* 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.

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