LEWATIT® MonoPlus S 100 H

Product Information

Lewatit MonoPlus S 100 H is a strongly acidic, gelular cation exchange resin with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer. 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.

Lewatit MonoPlus S 100 H is especially applicable for:

- demineralization of water for industrial steam generation, e.g. Lewatit WS System, Lewatit Liftbed System or Lewatit Rinsebed System
- polishing by a Lewatit Multistep System or mixed bed in combination with **Lewatit MonoPlus M 500**

Lewatit MonoPlus S 100 H is adding 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 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 correspondend to the current state-of-the-art. Further advice in this matter can be optained from Bayer AG, Business Goup Specialty Products, Business Unit Ion Exchange Resins.

LEWATIT® MonoPlus S 100 H

General Description

Ionic form as, as shipped	H+
Functional group	sulfonic acid
Matrix	crosslinked polystyrene
Structure	gel type beads
Appearance	dark brown, translucent

Physical and Chemical Properties

Uniformity coefficient*		max.	1.1
Mean bead size	* (AB)	mm	0.60 (+/- 0.05)
Share of beads in the range	* AB +/- 0.05 mm	%	> 90
Bulk density	(+/- 5%)	g/l	780
Density		approx. g/ml	1.22
Water retention		%	47 - 53
Total capacity*		min. eq/l	1.8
Volume change	H+ -> Na+	max. %	-8
Stability	at pH-range		0 - 14
Storability	of the product	min. months	6
Storability	at temperature	°C	-10 - +40

* These data are specification values and are subject to continous monitoring.

LEWATIT® MonoPlus S 100 H

Recommended Operating Conditions*

Operating temperature		max. °C	120		
Operating pH range			0 - 14		
Bed depth		min. mm	800		
Specific pressure loss	(15°C)	approx. kPa*h/m²	1.0		
Max. pressure loss		kPa	200		
Linear velocity	exhaustion	max. m/h	60***		
Linear velocity	backwash (20 °C)	approx. m/h	10 - 12		
Bed expansion	(20°C, per m/h)	approx. %	4		
Freeboard	as % of resin volume	%	60		
Regenerant			HCl	H2SO4	NaCl
Countercurrent regeneratio	level	approx. g/l	50	80	90
Countercurrent regeneratio	concentration	approx. %	4 - 6	1.5/3**	8 - 10
Linear velocity	regeneration	approx. m/h	5	10 - 20	5
Linear velocity	rinsing	approx. m/h	5	5	5
Rinse water requirement		approx. BV	2	2	2
Cocurrent regeneration	level	approx. g/l	100	150	200
Cocurrent regeneration	concentration	approx. %	6 - 10	1.5/3**	8 - 10
Linear velocity	regeneration	approx. m/h	5	10 - 20	5
Linear velocity	rinsing	approx. m/h	5	5	5
Rinse water requirement		approx. BV	6	6	6
Mixed bed operation					
Bed depth		min. mm	500	500	
Regenerant	level	approx. g/l	100	150	
Regenerant	concentration	approx. %	4 - 6	2 - 8	

* The recommend 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 are to be found in our Technical Information Sheets.

** progressive Regeneration

*** 100m/h for polishing

LEWATIT® MonoPlus S 100 H

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

A proprietary technical recycling process for used ion exchanger is unknown to us. In the European Community the following possibilities for disposal can be utilized.

Resins used for water treatment and in the sugar industry can be disposed under code number 190 905. Our preference is to recommend disposal in an industrial incinerator.

Ion exchange resins which contain impurities after use in industrial processes, e.g. electroplating, chemicals treatment etc., can be disposed under code number 190 806. A certificate of disposal is required.

Bayer AG
Chemicals
BU ION
D-51368 Leverkusen

www.lewatit.com
www.bayerchemicals.com