

Lewatit® MonoPlus SP 112 H is a strongly acidic, macroporous cation exchange resin with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer, in fully regenerated form, designed for all demineralization applications. The monodisperse beads have high chemical and osmotic stability. The extremely high monodispersity and very low fines content result in particularly low pressure losses compared with standard resins.

Lewatit® MonoPlus SP 112 H is especially suitable for:

- » demineralization of water for industrial steam generation operated with co-current or modern counter-current systems like e.g. Lewatit® WS System, Lewatit® Liftbed System or Lewatit® Rinsebed System
- » polishing using the Lewatit® Multistep System or a conventional mixed bed arrangement in combination with **Lewatit® MonoPlus MP 800** or **Lewatit® MonoPlus MP 800 OH**
- » condensate polishing in combination with **Lewatit® MonoPlus MP 800** or **Lewatit® MonoPlus MP 800 OH**

Lewatit® MonoPlus SP 112 H adds special features to the resin bed:

- » high flow rates during regeneration and loading
- » a good utilization of the total capacity
- » low rinse water requirement
- » homogeneous throughput of regenerants, water and solutions, resulting in a homogeneous operating zone
- » virtually linear pressure drop gradient across the entire bed depth, allowing operation with higher bed depths
- » good separation of the components in mixed bed applications

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 Corporation.

PRODUCT INFORMATION

LEWATIT® MonoPlus SP 112 H



Common Description

Delivery form	H ⁺
Functional group	sulfonic acid
Matrix	styrenic
Structure	macroporous
Appearance	beige, grey

Specified Data

		US Units			
Uniformity coefficient				max.	1.1
Mean bead size	d50			mm	0.67 (+/-0.05)
Total capacity (delivery form)		kgr/ft ³	34.9	min. eq/L	1.6

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Typical Physical and Chemical Properties

		US Units		Metric Units	
Bulk density for shipment	(+/- 5%)	lb/ft³	46.3	g/L	720
Density				approx. g/mL	1.18
Water retention (delivery form)				approx. weight %	56-60
Volume change (H⁺ - Na⁺)				max. approx. %	-8
Stability pH range					0-14
Storability temperature range				°C	-20 - +40

Operation

		US Units		Metric Units	
Operating temperature		max. °F	284	max. °C	140
Operating pH range	during exhaustion				2-14
Bed depth for single column		min. inches	31.5	min. mm	800
Bed depth per component in mixed bed		min. inches		min. mm	500
Back wash bed expansion per m/h (20°C)				%	4.5
Specific pressure loss (15°C)				kPa*h/m²	0.8
Max. pressure loss during operation		PSI	44	kPa	300
Specific flow rate		max. gpm/ft³	8	max. BV/h	60 (100*)

Regeneration

		US Units		Metric Units	
HCl regeneration	concentration	approx. wt. %		approx. wt. %	4-6
HCl regeneration	quantity co-current	min. lb/ft³	6.3	min. g/L resin	100
HCl regeneration	quantity counter-current	min. lb/ft³	3.4	min. g/L resin	55
H₂SO₄ regeneration	concentration	approx. wt. %		approx. wt. %	1.5-8
H₂SO₄ regeneration	quantity co-current	min. lb/ft³	7.5	min. g/L resin	120
H₂SO₄ regeneration	quantity counter-current	min. lb/ft³	5.0	min. g/L resin	80
Regeneration contact time		min. minutes		min. minutes	20
Slow rinse at regeneration flow rate		min. gal/ft³	15.0	min. BV	2
Fast rinse at service flow rate		min. gal/ft³	15.0	min. BV	2

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

Additional Information & Regulations

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE OF PRODUCTS MENTIONED HEREIN IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING ANY PRODUCT, ALWAYS READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.

Safety precautions

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

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 conditions

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.

Storage time

The recommended storage time for this product is explained in the technical document "Technical guidelines on the storage of Lewatit® ion exchange resins" available for download on our website. Please use the following link for more information: <https://lanxess.com/en/products-and-brands/brands/lewatit/literature>

Packaging

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

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