

Lewatit® MonoPlus SP 112 is a strongly acidic, macroporous cation exchange resin with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer. The monodisperse beads are chemically and osmotically very stable. The optimized kinetics leads to an increased operating capacity compared to ion exchange resins with heterodisperse bead size distribution.

Lewatit® MonoPlus SP 112 is especially applicable for:

- » The 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 in combination with **Lewatit® MonoPlus MP 800**
- » condensate softening
- » condensate polishing in combination with **Lewatit® MonoPlus MP 800**
- » removal of cationic in process water streams (metal, plastics, etc.)

Lewatit® MonoPlus SP 112 is adding special features to the resin bed:

- » high exchange flow rates during regeneration and loading
- » a good utilization of the total capacity
- » a low demand for rinse water
- » a homogeneous distribution of regenerants, water and solutions; leading to an homogeneous working zone
- » a nearly linear pressure drop gradient for the whole bed depth; allowing higher bed depths

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	Na ⁺
Functional group	Sulfonic acid
Matrix	Crosslinked polystyrene
Structure	Macroporous
Appearance	Beige-grey, opaque

Specified Data

	metric units	
Uniformity Coefficient	max.	1.1
Mean bead size	mm	0.65 (+/- 0.05)
Total capacity	min. eq/l	1.7

Physical and Chemical Properties

		metric units	
Bulk density	(+/- 5 %)	g/l	740
Density		approx. g/ml	1.24
Water retention		wt. %	52 - 57
Volume change	Na ⁺ --> H ⁺	max. vol. %	8
Stability	at pH-range		0 - 14
Storability	of the product	max. years	2
Storability	temperature range	°C	-20 - +40

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

Recommended Operating Conditions*

		metric units	
OPERATION			
Operating temperature		max. °C	120
Operating pH-range			0 - 14
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m ²	0.8
Pressure drop		max. kPa	300
Linear velocity	operation	max. m/h	60***
REGENERATION, COUNTER-CURRENT			
Regenerant	type		HCl H ₂ SO ₄ NaCl
Regenerant	quantity	approx. g/l	HCl 50 H ₂ SO ₄ 80 NaCl 90
Regenerant	concentration	wt. %	HCl 4 - 6 H ₂ SO ₄ 1.5** / 4** NaCl 8 - 10
Linear velocity		approx. m/h	HCl 5 H ₂ SO ₄ 10 - 20 NaCl 5
Linear velocity	rinsing	approx. m/h	HCl 5 H ₂ SO ₄ 5 NaCl 5
REGENERATION, CO-CURRENT			
Regenerant	type		HCl H ₂ SO ₄ NaCl
Regenerant	quantity	approx. g/l	HCl 80 - 100 H ₂ SO ₄ 130 - 150 NaCl 200
Regenerant	concentration	approx. wt. %	HCl 6 - 10 H ₂ SO ₄ 1.5** / 4** NaCl 8 - 10
Linear velocity		approx. m/h	HCl 5 H ₂ SO ₄ 10 - 20 NaCl 5
Linear velocity	backwash (20 °C)	approx. m/h	15
Linear velocity	rinsing	approx. m/h	5

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

PRODUCT INFORMATION LEWATIT® MonoPlus SP 112



Rinse water requirement	slow / fast	approx. BV	2.5 / 5
Bed expansion	(20 °C, per m/h)	approx. vol. %	4.5
Freeboard	backwash (extern / intern)	vol. %	60 - 80

* 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.

** Regeneration progressive

*** 100m/h for polishing

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

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.

LANXESS Deutschland GmbH
BU LPT
D-51369 Leverkusen

www.lewatit.com
www.lanxess.com

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