

**Lewatit® MonoPlus MP 68** is a weakly basic, macroporous anion 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 MP 68** is especially applicable for:

- » demineralization of water for industrial steam generation in combination with strong basic ion exchangers like **Lewatit® MonoPlus M 500** (particularly for water with a high loading of humic acids and other organic substances) especially recommended for Lewatit WS System
- » treatment of electroplating rinse waters
- » demineralization of water with a high concentration of humic acids and other organic substances to protect the strong basic anion exchanger from fouling

**Lewatit® MonoPlus MP 68** adds special features to the resin bed:

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

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 Ion Exchange Resins.

## General Description

Ionic form as shipped	free base/Cl
Functional group	tertiary/quarternary amine
Matrix	crosslinked polystyrene
Structure	macroporous
Appearance	beige, opaque

## Physical and Chemical Properties

		<b>metric units</b>	
Uniformity Coefficient*		max.	1.1
Mean bead size*		mm	0.54 (+/- 0.05)
Bulk density	(+/- 5 %)	g/l	620
Density		approx. g/ml	1.04
Water retention		wt. %	54 - 60
Total capacity*		min. eq/l	1.3
Volume change	total swelling (delivered --> Cl)	typical vol. %	24
Stability	at pH-range		0 - 14
Storability	of the product	max. years	2
Storability	temperature range	°C	-20 - 40

\* Specification values subjected to continuous monitoring.

### Recommended Operating Conditions\*

		<b>metric units</b>	
Operating temperature		max. °C	70
Operating pH-range			0 - 7
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m <sup>2</sup>	0.8
Pressure drop		max. kPa	300
Linear velocity	operation	max. m/h	60
Linear velocity	backwash (20 °C)	approx. m/h	4
Bed expansion	(20 °C, per m/h)	approx. vol. %	21
Freeboard	backwash (extern / intern)	vol. %	100
Regenerant			NaOH
Counter current regeneration	level	approx. g/l	50
WS-System	concentration	approx. wt. %	2 - 4
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
Co current regeneration	level	approx. g/l	50 - 80
Co current regeneration	concentration	approx. wt. %	3 - 5
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
Rinse water requirement	slow / fast	approx. BV	8

\* 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

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

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