

**Lewatit® MonoPlus MP 600** is a strongly basic, macroporous anion exchange resin (type II) with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer, 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. Due to its special macroporous structure **Lewatit® MonoPlus MP 600** stands for effective adsorption and desorption of naturally occurring organic substances. Due to the excellent regeneration efficiency and high operating capacity **Lewatit® MonoPlus MP 600** is generally used for waters in which silica and carbon dioxide concentrations are moderate. For higher silica feeds, a type I anion exchange resin such as

**Lewatit® MonoPlus MP 800** is recommended.

**Lewatit® MonoPlus MP 600** 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** in combination with **Lewatit® MonoPlus SP 112** or **Lewatit® MonoPlus SP 112 (H)**

**Lewatit® MonoPlus MP 600** adds special features to the resin bed:

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

During the application of type II anion exchange resins in the regenerated form the strongly basic groups are gradually converted to weakly basic ones. This process is an inherent property of the functional groups and enhanced by:

- » elevated oxygen concentrations ( e.g. downstream from a degassifier )
- » the presence of iron, manganese, copper, etc.
- » regeneration temperatures >25°C
- » operating temperatures >30°C

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.

## Common Description

Delivery form	Cl <sup>-</sup>
Functional group	Quaternary ammonium Type 2
Matrix	Styrenic
Structure	Macroporous
Appearance	Beige, opaque

## Specified Data

Uniformity coefficient		max.	1.1
Mean bead size	d50	mm	0.60 (+/-0.05)
Total capacity (delivery form)		min. eq/L	1.1

## Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	630
Density		approx. g/mL	1.1
Water retention (delivery form)		approx. weight %	55-60
Volume change (Cl <sup>-</sup> -OH <sup>-</sup> )		max. approx. %	12
Stability pH range			0-14
Storage time (after delivery)		max. years	2
Storage temperature range		°C	-20 - +40

## Operation

Operating temperature		max. °C	30
Operating pH range	during exhaustion		0-12
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	10
Specific pressure loss kPa*h/m <sup>2</sup> (15°C)		kPa*h/m <sup>2</sup> (15°C)	1
Max. pressure loss during operation		kPa	300
Specific flow rate		max. BV/h	60

## Regeneration

NaOH regeneration	concentration	approx. wt. %	2-6
NaOH regeneration	quantity co-current	min. g/L resin	80
NaOH regeneration	quantity counter-current	min. g/L resin	40
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		min. BV	2

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.

### Packaging

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

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