

**Lewatit® MonoPlus M 800** is a strongly basic, gelular anion exchange resin with beads of uniform size (monodisperse) based on a styrene-divinylbenzene copolymer. Chemically and osmotically considered, the monodisperse beads are highly stable. The optimized kinetics lead to an increased operating capacity compared to ion exchange resins with heterodisperse bead size distribution.

**Lewatit® MonoPlus M 800** is especially applicable for:

- » conventional mixed bed application in combination with **Lewatit® MonoPlus S 100 H**, **Lewatit® MonoPlus S 108 H** or **Lewatit® MonoPlus S 200 KR**
- » polishing by a modern Lewatit® Multistep System
- » condensate polishing in combination with **Lewatit® MonoPlus S 200 KR**

**Lewatit® MonoPlus M 800** adds 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 an 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 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	Cl <sup>-</sup>
Functional group	Quaternary amine, type I
Matrix	Crosslinked polystyrene
Structure	Gel
Appearance	Yellow, translucent

## Specified Data

	metric units	
Uniformity Coefficient	max.	1.1
Mean bead size	mm	0.59 (+/- 0.05)
Total capacity	min. eq/l	1.4

## Physical and Chemical Properties

		metric units	
Bulk density	(+/- 5 %)	g/l	650
Density		approx. g/ml	1.08
Water retention		wt. %	45 - 50
Volume change	Cl <sup>-</sup> --> OH <sup>-</sup>	max. vol. %	18
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	
Operating temperature		max. °C	70
Operating pH-range			0 - 12
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m <sup>2</sup>	1.0
Pressure drop		max. kPa	200
Linear velocity	operation	max. m/h	5 - 120
Regenerant			NaOH
Counter current regeneration	level	approx. g/l	50
Counter current regeneration	concentration	wt. %	5 - 10
Linear velocity	regeneration	approx. m/h	5
Co current regeneration	level	approx. g/l	100
Co current regeneration	concentration	approx. wt. %	3 - 5
Linear velocity	regeneration	approx. m/h	5
Linear velocity	backwash (20 °C)	approx. m/h	7
Bed expansion	(20 °C, per m/h)	approx. vol. %	11
Freeboard	backwash (extern / intern)	vol. %	80 - 100
Linear velocity	rinsing	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
Rinse water requirement	slow / fast	approx. BV	10
Rinse water requirement	slow / fast	approx. BV	2 / 5

\* 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

### **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.

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