PRODUCT INFORMATION
LEWATIT® MonoPlus M 600

Lewatit® MonoPlus M 600 is a strongly basic, gelular 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 the excellent regeneration efficiency and high operating capacity **Lewatit® MonoPlus M 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 M 500** is recommended.

Lewatit® MonoPlus M 600 is especially suitable for:

» the 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 S 108 H** or **Lewatit® MonoPlus S 200 KR**

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

» high flow rates during regeneration and loading
» 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

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 Sybron Inc.

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Common Description

Functional group	quaternary ammonium type 2
Matrix	styrenic
Structure	macroporous
Appearance	yellow, translucent

Specified Data

		US Units		Metric Units	
Uniformity coefficient				max.	1.1
Mean bead size	d50			mm	0.62 (+/- 0.05)
Total capacity (delivery form)		kgr/ft³	28.4	min. eq/L	1.3

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Lewatit®

Typical Physical and Chemical Properties

		US Units		Metric Units	
Bulk density for shipment	(+/- 5%)	lb/ft³	42.5	g/L	680
Density				approx. g/mL	1.1
Water retention (delivery form)				approx. weight %	45-50
Volume change (Cl^- -OH^-)				max. approx. %	16
Stability pH range					0-14
Storage time (after delivery)				max. years	2
Storability temperature range				°C	-20 - +40

Operation

		US Units		Metric Units	
Operating temperature		max. °F	86	max. °C	30
Operating pH range	during exhaustion				0-12
Bed depth for single column		min. inches	31.5	min. mm	800
Back wash bed expansion per m/h (20°C)				%	10
Specific pressure loss (15°C)				kPa*h/m²	1
Max. pressure loss during operation		PSI	29	kPa	200
Specific flow rate		max. gpm/ft3	8	max. BV/h	60

Regeneration

		US Units		Metric Units	
NaOH regeneration	concentration	approx. wt. %		approx. wt. %	2-6
NaOH regeneration	quantity co-current	min. lb/ft³	5.0	min. g/L resin	80
NaOH regeneration	quantity counter-current	min. lb/ft³		min. g/L resin	40
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

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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Note: The information contained in this publication is current as of the date of edition. Please contact LANXESS Sybron Chemicals Inc. to determine if this publication has been revised.

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