

**Lewatit® MonoPlus TP 260** is a weakly acidic, macroporous cation exchange resin with chelating amino methyl phosphonic acid groups designed for the selective removal of heavy metal cations and alkaline earth cations.

The monodisperse, uniform sized beads of **Lewatit® MonoPlus TP 260** are mechanically and osmotically more stable than ion exchange resin beds with heterodisperse bead size distribution. Additionally they offer superior kinetic behavior which leads to faster uptake of cations and a better utilization of capacity. Due to its modified polymer structure and substitution grade it is for example suitable for use in:

- fine polishing of brine fed to chloralkali membrane cells, e.g. by removal of  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Sr}^{2+}$ ; in the absence of  $\text{Fe}^{3+}$  ions
- fluoride (F) removal using aluminum (Al) doped **Lewatit® MonoPlus TP 260**
- antimony (Sb) and bismuth (Bi) removal from copper containing electrolyte
- uranium (U) removal from crude phosphoric acid
- titanium (Ti) removal from recycled battery acid
- aluminum (Al) removal from urea solutions
- lead (Pb) and strontium (Sr) removal from  $\text{BF}_4^-$  containing waste water out of PCB production
- removal of iron(II), nickel and zinc from 5 % gluconate containing liquid metal working

Heavy metal and alkaline earth cations are removed out of neutralized process and waste waters in following order (decreasing affinity):

Uranium ( $\text{UO}_2^{2+}$ ) > Lead > Copper > Zinc > Nickel > Cadmium > Cobalt >> Calcium > Magnesium > Strontium > Barium >>> Sodium.

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 Corporation.

# PRODUCT INFORMATION

## LEWATIT® MonoPlus TP 260



### Common Description

Delivery form	Na <sup>+</sup>
Functional group	aminomethylphosphonic acid
Matrix	styrenic
Structure	macroporous
Appearance	beige, opaque

### Specified Data

Uniformity coefficient		max.	1.1
Mean bead size	d50	mm	0.63 (+/- 0.05)
Total capacity (H <sup>+</sup> form)		min. eq/L	2.4

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

Edition: 2021-08-31  
Previous Edition: 2020-11-19

## Typical Physical and Chemical Properties

		Metric Units	
Bulk density for shipment	(+/- 5%)	g/L	720
Density		approx. g/mL	1.18
Water retention (delivery form)		approx. weight %	58-62
Volume change (Na <sup>+</sup> - H <sup>+</sup> )		max. approx. %	-35
Stability pH range			0-14
Stability temperature range		°C	1-80
Storability temperature range		°C	-20 - +40

## Operation

		Metric Units	
Operating temperature		max. °C	80
Operating pH range	during exhaustion		1-12
Bed depth for single column		min. mm	1000
Back wash bed expansion per m/h (20°C)		%	6
Specific pressure loss (15°C)		kPa*h/m <sup>2</sup>	1.1
Max. pressure loss during operation		kPa	250
Specific flow rate		max. BV/h	5-25
Freeboard	during backwash	min. vol. %	100

## Regeneration

		Metric Units	
HCl regeneration	concentration	approx. wt. %	4-10
HCl regeneration	quantity co-current	min. g/L resin	150
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	4

## Conditioning

		Metric Units	
NaOH conditioning	concentration	approx. wt. %	4
NaOH conditioning, di-Na <sup>+</sup>	quantity	min. g/L resin	80-96
Conditioning contact time		min. minutes	20
Slow rinse	at conditioning flow rate	min. BV	4

## Additional Information & Regulations

**PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE OF PRODUCTS MENTIONED HEREIN IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING ANY PRODUCT, ALWAYS READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.**

### **Safety precautions**

Strong oxidants, e.g. nitric acid, can cause violent reactions if they come into contact with ion exchange resins.

### **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.

### **Packaging**

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

# PRODUCT INFORMATION

## LEWATIT® MonoPlus TP 260



The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and application. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change with notice. It is expressly understood and agreed that you assume and hereby expressly release us from liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

**Health and Safety Information:** Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS Corporation products mentioned in this publication. For materials mentioned which are not LANXESS Corporation products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., *safety data sheets and product labels*. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS Corporation

**Regulatory Compliance Information:** Some of the end uses of the products described in this publication must comply with applicable regulations, such as the FDA, BfR, NSF, USDA, and CPSC. If you have any questions on the regulatory status of these products, contact - for business in the USA - the LANXESS Corporation Regulatory Affairs and Product Safety Department in Pittsburgh, PA, USA or for business outside US the Regulatory Affairs and Product Safety Department of LANXESS Deutschland GmbH in Germany.

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

**LANXESS Corporation**  
111 RIDC Park West Dr  
12275-1112 Pittsburgh-Allegheny  
USA

+1-800-678-0020  
lewatit@lanxess.com

www.lanxess.com  
www.lpt.lanxess.com

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