

Lewatit® GF 404 is a strongly acidic, macroporous cation exchange resin with beads of uniform size and high mechanical and osmotic stability.

Lewatit® GF 404 is especially suitable for removing traces of cations from glycerine which has been subjected to preliminary deashing with **Lewatit® GF 303**.

Lewatit® GF 404 complies with current German legislation on food and food-contact uses and is chemically in compliance with the FDA regulations 21 CFR 173.25 (a).

Lewatit® GF 404 is in compliance with the European Resolution ResAP (2004)3 (superseding the former Resolution AP (97)1) with regard to Total Organic Carbon (TOC) release according the AFNOR test T 90-601.

When using **Lewatit® GF 404** to treat potable water and the aqueous solutions listed above, special care should be given to the initial cycles of the new resin. Please refer to the recommended start-up conditions contained in this data sheet.

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	H ⁺
Functional group	sulfonic acid
Structure	macroporous
Appearance	opaque

Physical and Chemical Properties

	metric units	
Total capacity*	min. eq/l	1.6
Uniformity Coefficient*	max.	1.1
Mean bead size*	mm	0.67 (+/- 0.05)
Bulk density (+/- 5 %)	g/l	740
Density	approx. g/ml	1.24
Water retention (+/- 3%)	wt. %	58
Volume change Na ⁺ --> H ⁺	max. vol. %	8
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*

		metric units				
Operating temperature		max. °C	120			
Operating pH-range			0-14			
Bed depth		min. mm	800			
Specific pressure drop	(15 °C)	approx. kPa*h/m²	0.8			
Pressure drop		max. kPa	300			
Linear velocity	backwash (20 °C)	approx. m/h	10 - 12			
Bed expansion	(20 °C, per m/h)	approx. vol. %	4			
Freeboard	backwash (extern / intern)	vol. %	60			
Regenerant			HCl	H ₂ SO ₄	NaCl	
Counter current regeneration	level	approx. g/l	HCl	60		
			H ₂ S	100		
			O ₄			
			NaCl	100		
Linear velocity	regeneration	approx. m/h	HCl	5		
			H ₂ S	10	-	20
			O ₄			
			NaCl	5		
Linear velocity	rinsing	approx. m/h	HCl	5		
			H ₂ S	10	-	20
			O ₄			
			NaCl	5		
Rinse water requirement	slow / fast	approx. BV	HCl	2.5		
			H ₂ S	2.5		
			O ₄			
			NaCl	2.5		
Co current regeneration	level	approx. g/l	HCl	100		
			H ₂ S	150		
			O ₄			
			NaCl	200		
Co current regeneration	concentration	approx. wt. %	HCl	4	-	6
			H ₂ S	1.5	/	3**
			O ₄			
			NaCl	8	-	10

* 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.

** Regeneration progressive

Recommended Start-up Conditions*

(in drinking water and food applications only)

Linear velocity	approx. m/h	5
Rinse water requirement	approx. BV	20

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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For more information or a quote, please use the

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