

Lewatit® S 1668 is a monodisperse, food grade, gel-type, strongly acidic cation exchange resin based on a styrene-divinylbenzene copolymer.

The optimized kinetics lead to an increased operating capacity compared to ion exchange resins with heterodisperse bead size distribution. An strong improved value of the total capacity provides additionally for long running times with low leakage and economical regeneration amount.

Lewatit® S 1668 is especially applicable for:

- the softening of solutions, especially for thin juices of the sugar and pectin industries
- the decationisation of solutions of organic products, e.g. sugar beet, sugar cane, starch sugar, glycerine, gelatine, whey and food acids etc.
- the extraction of amino acids, e.g. lysine

Lewatit® S 1668 adds special features to the resin bed:

- high exchange flow rates during regeneration and loading
- a good utilization of the total capacity
- a low sweeten-on-, sweeten-off- and rinse water demand
- a homogeneous throughput of regenerants, water and solutions; therefore an homogeneous working zone
- nearly linear pressure drop gradient for the whole bed depth; therefore an operation with higher bed depth possible

If using **Lewatit® S 1668** 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 available on request. For single filter use please contact our technical customer service!

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.

Common Description

Delivery form	Na ⁺
Functional group	Sulfonic acid
Matrix	Styrenic
Structure	Gel
Appearance	Dark brown

Specified Data

		US Units			
Uniformity coefficient				max.	1.1
Mean bead size	d50			mm	0.57-0.67
Total capacity (delivery form)		kgr/ft ³	48	min. eq/L	2.2

Typical Physical and Chemical Properties

		US Units		Metric Units	
Bulk density for shipment	(+/- 5%)	lb/ft³	52	g/L	830
Density				approx. g/mL	1.3
Water retention (delivery form)				approx. weight %	41-46
Volume change (Na ⁺ - H ⁺)				max. approx. %	12
Stability pH range					0-14
Stability temperature range				°C	1-120
Storage time (after delivery)				max. years	2
Storability temperature range				°C	-20 - +40

Operation

		US Units		Metric Units	
Operating temperature		max. °F	248	max. °C	120
Operating pH range	during exhaustion				0-14
Bed depth for single column		min. inches	31	min. mm	800
Back wash bed expansion per m/h (20°C)				%	4
Specific pressure loss (15°C)				kPa*h/m²	1
Max. pressure loss during operation		PSI	29	kPa	200
Specific flow rate		max. gpm/ft³	3	max. BV/h	20
Freeboard	during backwash			min. vol. %	80-100

Regeneration

		US Units		Metric Units	
HCl regeneration	concentration	approx. wt. %	4-6	approx. wt. %	4-6
HCl regeneration	quantity co-current	min. lb/ft³	6.3	min. g/L resin	100
HCl regeneration	quantity counter-current	min. lb/ft³	3.4-4.1	min. g/L resin	55-65
H ₂ SO ₄ regeneration	concentration	approx. wt. %	1.5-3	approx. wt. %	1.5-3
H ₂ SO ₄ regeneration	quantity co-current	min. lb/ft³	9.4	min. g/L resin	150
H ₂ SO ₄ regeneration	quantity counter-current	min. lb/ft³	5.0	min. g/L resin	80
NaCl regeneration	concentration	approx. wt. %	8-10	approx. wt. %	8-10
NaCl regeneration	quantity co-current	min. lb/ft³	6.3	min. g/L resin	200
NaCl regeneration	quantity counter-current	min. lb/ft³	12.5	min. g/L resin	100
Regeneration contact time		min. minutes	20	min. minutes	20
Slow rinse at regeneration flow rate		min. gal/ft³	15	min. BV	2
Fast rinse at service flow rate		min. gal/ft³	30	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.

Storage conditions

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.

Storage time

The recommended storage time for this product is explained in the technical document "Technical guidelines on the storage of Lewatit® ion exchange resins" available for download on our website. Please use the following link for more information: <https://lanxess.com/en/products-and-brands/brands/lewatit/literature>

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

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