

# PRODUCT INFORMATION

## LEWATIT® S 100 G1



**Lewatit® S 100 G1** is dyed with an indicator, which indicates the exhaustion respectively the break through point of the ion exchanger by changing the colour into red.

Due to its high total capacity, its high chemical resistance and the high osmotic stability, **Lewatit® S 100 G1** is especially applicable for:

- » the removal of cations from condensates upstream of a conductivity measuring point.

**Lewatit® S 100 G1** can also be utilized in all standard cation exchange applications and in combination with other ion exchange resins.

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 <sup>+</sup>
Functional group	sulfonic acid
Matrix	crosslinked polystyrene
Structure	gel type beads
Appearance	<b>H<sup>+</sup> Form:</b> brown, translucent <b>Na<sup>+</sup> Form:</b> red, translucent

## Physical and Chemical Properties

		metric units	
Uniformity Coefficient*		max.	1.6
Bead size*	> 90 %	mm	0.5 - 1.25
Effective size*		mm	0.57 (+/- 0.05 )
Bulk density	(+/- 5 %)	g/l	760
Density		approx. g/ml	1.22
Water retention		wt. %	50 - 55
Total capacity*		min. eq/l	1.8
Volume change	H <sup>+</sup> --> Na <sup>+</sup>	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	70		
Operating pH-range			0 - 14		
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	40		
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 <sub>2</sub> SO <sub>4</sub>	NaCl
Counter current regeneration	level	approx. g/l	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	50 80 90	
Counter current regeneration	concentration	wt. %	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	4 1.5 8	- / - 6 3** 10
Linear velocity	regeneration	approx. m/h	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	5 10 5	- - 20
Linear velocity	rinsing	approx. m/h	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	5 5 5	
Co current regeneration	level	approx. g/l	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	100 150 200	
Co current regeneration	concentration	approx. wt. %	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	6 1.5 8	- / - 10 3** 10
Linear velocity	regeneration	approx. m/h	HCl H <sub>2</sub> SO <sub>4</sub> NaCl	5 10 5	- - 20
Rinse water requirement	slow / fast	approx. BV	2 / 6		
Bed depth		min. mm	HCl H <sub>2</sub> SO <sub>4</sub>	500 500	
Regenerant	level	approx. g/l	HCl	100	

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Regenerant	concentration	approx. wt. %	H <sub>2</sub> SO <sub>4</sub> 150		
			HCl	-	6
			4	-	6
			2	-	8

\* 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

\*\*\* 100m/h for polishing

## Additional Information & Regulations

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### 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.

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

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