PRODUCT INFORMATION
LEWATIT® S 8223

Lewatit® S 8223 is a food grade, macroporous, weakly acidic cation exchange resin based on a crosslinked polyacrylate. It is bead-shaped and has a special bead size distribution for use in household filter systems and technical drinking water plants.

In its hydrogen form, **Lewatit® S 8223** is suitable for the decarbonisation and partial softening of drinking water, e.g. for the use in household filter systems

Lewatit® S 8223 has an optimized polymer structure to achieve a high operating capacity in operation.

When using **Lewatit® S 8223** 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.

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 Liquid Purification Technologies.

Common Description

Delivery form	H^+
Functional group	Carboxylic acid
Matrix	Crosslinked polyacrylate
Structure	Macroporous
Appearance	white, opaque

Specified Data

Uniformity coefficient		max.	1.9
Range of size for >90 vol% of all beads		mm	0.315-1.6
Effective size	d10	mm	0.45-0.65
Total capacity (delivery form)		min. eq/L	3.4

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	740
Water retention (delivery form)		approx. weight %	53-63
Volume change (H^+ - Na^+)		max. approx. %	90
Stability pH range			0-14
Stability temperature range		°C	1-70
Storage time (after delivery)		max. years	1
Storage temperature range		°C	-20 - +40

Operation

Operating temperature		max. °C	70
Operating pH range	during exhaustion		5-14
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	5
Specific pressure loss kPa*h/m^2 (15°C)		kPa*h/m^2 (15°C)	1.3
Max. pressure loss during operation		kPa	250
Freeboard	during backwash	min. vol. %	60-80

Regeneration

HCl regeneration	concentration	approx. wt. %	3-6
HCl regeneration	quantity co-current	min. g/L resin	120
HCl regeneration	quantity counter-current	min. g/L resin	70
H_2SO_4 regeneration	concentration	approx. wt. %	0.5 - 0.8
H_2SO_4 regeneration	quantity co-current	min. g/L resin	150
H_2SO_4 regeneration	quantity counter-current	min. g/L resin	90
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		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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