

PRELIMINARY TECHNICAL DATA SHEET

Lewatit® S 5221 is a food grade, macroporous, weakly basic anion exchange resin based on a crosslinked polyacrylate.

Lewatit® S 5221 combines a good physical stability and an excellent resistance to mechanical osmotic shocks with an exceptionally high total capacity.

Lewatit® S 5221 is suitable in the free base form for the removal of e.g. sulfate ions of organic products such as lactic acid, citric acid etc.

If using **Lewatit® S 5221** 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	Free base
Functional group	Polyamine
Matrix	Acrylic
Structure	Macroporous
Appearance	Yellow, white, opaque

Specified Data

Uniformity coefficient		max.	1.8
Mean bead size	d50	mm	0.4 -1.6
Effective size	d10	mm	0.50-0.75
Total capacity (delivery form)		min. eq/L	2.8

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	740
Density		approx. g/mL	1.1
Water retention (delivery form)		approx. weight %	52-63
Volume change (free base - Cl)		max. approx. %	26
Stability pH range			0-14
Stability temperature range		°C	1-60
Storage time (after delivery)		min. years	2
Storage temperature range		°C	-20-+40

Operation

Operating temperature		max. °C	60
Operating pH range	during exhaustion		0-8
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	17
Specific pressure loss kPa*h/m ² (15°C)		kPa*h/m ² (15°C)	1
Max. pressure loss during operation		kPa	200
Specific flow rate		max. BV/h	5
Freeboard	during backwash	min. vol. %	80-100

Regeneration

NaOH regeneration	concentration	approx. wt. %	2-5
NaOH regeneration	quantity co-current	min. g/L resin	160
NaOH regeneration	quantity counter-current	min. g/L resin	100
Regeneration contact time		min. minutes	30
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		min. BV	4

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

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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