PRODUCT INFORMATION
LEWATIT® S 4228

Lewatit® S 4228 is a Food grade, medium basic macroporous anion exchange resin (tertiary and quaternary amino groups) based on polystyrene. It is bead-shaped and has a special bead size distribution for use in the following processes:

- Lewatit® WS system (fluidised bed)
- Lewatit® VWS system (compund fluidised bed)
- Standard co current regenerated system

In the free base form **Lewatit® S 4228** is suitable for:

- removal of acid and sumultaneous decolorisation of solutions of organic stubstances, e.g. sugar, gelatine, glycerine, grape must, whey, fruit concentrates, etc.

The macroporous structure and the relation between the weakly and strongly basic groups ensures very good adsorption of organic substances (e. g. colorants) and partial absorbtion of organic acids and mineral acids. The substances are easy to desorb by regeneration with caustic soda solution.

When using **Lewatit® S 4228** 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 Ion Exchange Resins.

General Description

Ionic form as shipped	free base/Cl^-
Functional group	tertiary/quaternary amine
Matrix	crosslinked polystyrene
Structure	macroporous
Appearance	beige, opaque

Physical and Chemical Properties

		metric units	
Uniformity Coefficient*		max.	1.6
Bead size*	> 90 %	mm	0.4 - 1.25
Effective size*		mm	0.55 (+/- 0.05)
Bulk density	(+/- 5 %)	g/l	680
Density		approx. g/ml	1.03
Water retention		wt. %	51 - 56
Total capacity*		min. eq/l	1.6
Volume change	total swelling (delivered --> Cl^-)	typical vol. %	28
Volume change	operational swelling	typical vol. %	16
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 - 8
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m²	1.1
Pressure drop		max. kPa	250
Linear velocity	backwash (20 °C)	approx. m/h	4 - 5
Bed expansion	(20 °C, per m/h)	approx. vol. %	17
Freeboard	backwash (extern / intern)	vol. %	80 - 100
Regenerant			NaOH
Counter current regeneration	level	approx. g/l	50 - 80
Counter current regeneration	concentration	wt. %	2 - 4
Co current regeneration	level	approx. g/l	50 - 80
Co current regeneration	concentration	approx. wt. %	2 - 4
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5 - 8
Rinse water requirement	slow / fast	approx. BV	6

* 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.

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.

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For more information or a quote, please use the

Contact Form