

LEWATIT[®] S 1428

Product Information

Lewatit S 1428 is a strongly acidic, gel-type cation exchange resin based on crosslinked polystyrene. It is bead-shaped and has a special bead size distribution.

Lewatit S 1428 is especially applicable for

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

Lewatit S 1428 is adding special features to the resin bed:

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

Lewatit S 1428 complies with current German legislation on food and food-contact uses and is chemically in compliance with the FDA regulations 21 CFR 173.25 (a).

Lewatit S 1428 is in compliance with the European Resolution AP (97)-1 with the regard to Total Organic Carbon (TOC) release according the ANOR Test (method T90-601).

When using **Lewatit S 1428** 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 contained in this data sheet.

The special properties of this product can only be fully utilized if the technology and process used corresponded to the current state-of-the-art. Further advice in this matter can be obtained from Bayer AG, Business Group Specialty Products, Business Unit Ion Exchange Resins.

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General Description

Ionic form as, as shipped	Na+
Functional group	sulfonic acid
Matrix	crosslinked polystyrene
Structure	gel type beads
Appearance	light brown, translucent

Physical and Chemical Properties

Bead size*	> 90%	mm	0.4 - 1.25
Effective size*		mm	0.55 (+/- 0.05)
Uniformity coefficient*		max.	1.6
Bulk density	(+/- 5%)	g/l	850
Density		approx. g/l	1.29
Water retention		%	45 - 48
Total capacity*		min. eq/l	2.0
Volume change	Na+ -> H+	max. %	+10
Stability	at pH-range		0 - 14
Storability	of the product	min. years	2
Storability	at temperature	°C	-10 - 40
Standard packaging	25-l-polyethylen bag		

* These data are specification values and are subject to continuous monitoring.

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Recommended Operating Conditions*

Operating temperature	max. °C	120		
Operating pH range		0 - 14		
Bed depth	min. mm	800		
Specific pressure loss	(15°C) approx. kPa*h/m ²	1.1		
Max. pressure loss	kPa	150		
Linear velocity	exhaustion max. m/h	-		
Linear velocity	backwash (20 °C) approx. m/h	14 - 18		
Bed expansion	(20°C, per m/h) approx. %	4		
Freeboard	as % of resin volume %	80 - 100		
Regenerant		HCl	H ₂ SO ₄	NaCl
Countercurrent regeneration level	approx. g/l	55	80	100
Countercurrent regeneration concentration	%	4 - 6	1.5/3**	8 - 10
Linear velocity	regeneration approx. m/h	5		
Linear velocity	rinsing approx. m/h	5		
Rinse water requirement	approx. BV	6		

Recommended Start-up Conditions*

(in drinking water applications only)

Rinsing	DI-water	
Linear velocity	approx. m/h	5
Rinse water requirement	approx. BV	20
Temp. of rinse water	Operating temperature	
Regeneration	with the double normal quantity	
Rinsing	with the double normal quantity	

* The recommend 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 are to be found in our Technical Information Sheets.

** progressive Regeneration

*** 100m/h for polishing

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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

A proprietary technical recycling process for used ion exchanger is unknown to us. In the European Community the following possibilities for disposal can be utilized.

Resins used for water treatment and in the sugar industry can be disposed under code number 190 905. Our preference is to recommend disposal in an industrial incinerator.

Ion exchange resins which contain impurities after use in industrial processes, e.g. electroplating, chemicals treatment etc., can be disposed under code number 190 806. A certificate of disposal is required.

Bayer AG
BG Specialty Products
BU Ion Exchange Resins
D-51368 Leverkusen

Internet: <http://www.lewatit.com>

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