

Lewatit® MonoPlus SR 7 is a macroporous, monodisperse, polystyrene-based anion exchange resin for the selective adsorption of nitrate.

Compared to standard commercially available anion exchange resins it has a three times higher selectivity for nitrates which enables it to safely remove nitrate from sulfate containing waters without the danger of nitrate dumping (more nitrate in effluent than influent).

Lewatit® MonoPlus SR 7 is especially suitable for use in the following applications:

- removal of nitrate from waste and process water
- removal of nitrate from aquarium and fish farming water
- removal of nitrite (NO_2^-) from water
- removal of iodide and bromide from water
- removal of perchlorate (ClO_4^-), chlorate (ClO_3^-) and bromate (BrO_3^-) from water
- removal of chlorate (ClO_3^-) from concentrated caustic (NaOH)

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	Cl ⁻
Functional group	Quarternary amine
Matrix	Styrenic
Structure	Macroporous
Appearance	White, opaque

Specified Data

Uniformity coefficient		max.	1.1
Mean bead size	d50	mm	0.62 (+/- 0.05)
Total capacity (delivery form)		min. eq/L	0.6

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	630
Density		approx. g/mL	1.02
Water retention (delivery form)		approx. weight %	59-64
Volume change (during exhaustion)		max. approx. %	5
Stability pH range			0-14
Stability temperature range		°C	1-80
Storage time (after delivery)		max. years	2
Storage temperature range		°C	-20 - +40

Operation

Operating temperature		max. °C	80
Operating pH range	during exhaustion		0-10
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	18
Specific pressure loss kPa*h/m² (15°C)		kPa*h/m² (15°C)	1.3
Max. pressure loss during operation		kPa	250
Specific flow rate		max. BV/h	20
Freeboard	during backwash	min. vol. %	80-100

Regeneration

NaCl regeneration	concentration	approx. wt. %	8-10
NaCl regeneration	quantity co-current	min. g/L resin	80-300
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	5
Fast rinse at service flow rate		min. BV	5

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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