

Product Information

NATROB OS is a macro-porous, uniform bead size, strongly basic anion exchange resin based on a styrene divinylbenzene copolymer. In its chloride form, NATROB OS is suitable to remove color in water caused by iron, manganese and organic compounds; tannin and humic acid are by far the most common class of compounds and give the water a yellow/browntint.

Once the water passes through anion resin beads the organic molecules are bound to the resin. When the resin has become saturated and can hold no more color forming compounds they need to be removed. Resin selection is critical as many require caustic soda to remove the organics. This resin can be regenerated with brine on its own or combination with caustic. Typically, every 1 liter of resin will take out 700 ppm COD or Organic Color before it needs regenerating. Please refer to the guideline table for regeneration concentration.

The macro-porous structure ensures very good adsorption of organic substances (e . g . colorants) and partial adsorption of organic acids and mineral acids. The substances are easy to be desorbed by regeneration with caustic soda solution combined with alkalized brine solution. During resin NATROB OS start to treat potable or effluent water and the aqueous, special care should be given to the initial cycles of the new resin. Please do double regeneration to activated Ion exchange resin.

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.

Common Description

Delivery Foam	Cl-
Functional group	Quaternary ammonium
Matrix	Styrenic
Structure	Macroporous
Appearance	Beige, opaque

Product Information

Natrob
Ion exchange resin

OS

Specified Data

Uniformity coefficient	max	1.1
Mean bead size	mm	0,63
Total capacity	min. eq/L	1.0

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	600
Density		approx. g/mL	1.1
Water retention (delivery form)		approx. weight %	63
Storage time (after delivery)		min. years	2
Stability pH range			0-14
Storage temperature range		°C	-20 - +40

Operation

Operating temperature		max. °C	80
Operating pH range	during exhaustion		0 - 12
Bed depth for single column		min. mm	800
Back wash bed expansion per m/h (20°C)		%	12
Specific pressure loss kPa*h/m ² (15°C)		kPa*h/m ² (15°C)	0.8
Max. pressure loss during operation		kPa	300
Specific flow rate	during backwash	Max. BV/h	5
Freeboard		Min. vol. %	80 - 100

Operation

NaCl/NaOH regeneration	concentration	approx. wt. %	10/1
NaCl/NaOH regeneration	quantity co-current	min. g/L resin	200/20
NaCl/NaOH regeneration	quantity counter-current	min. g/L resin	200/20
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		min. BV	4

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.

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.
Available packaging is 20 liter/pail or 25 liter/sack