



IMAC[®] HP555

Strongly Basic Anion Exchange Resin

Introduction

IMAC HP555 is a macroporous strongly basic anion exchange resin containing quaternary ammonium groups. It has been specially developed for selective nitrate removal from potable waters in any types of units, including Amberpack®. Indeed, IMAC HP555 removes nitrate preferentially to sulphate.

Properties

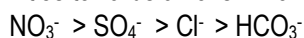
Matrix	Styrene divinylbenzene copolymer
Functional groups	Quaternary ammonium
Physical form	Cream beads
Ionic form as shipped	Chloride
Total exchange capacity	≥ 0.9 eq/L (Cl ⁻ form)
Moisture holding capacity	50 to 56 % (Cl ⁻ form)
Shipping Weight	720 g/L
Specific gravity	1.055 to 1.085 (Cl ⁻ form)
Particle size	< 0.300 mm : 5 % max
Harmonic mean size	650 to 850 μm
Uniformity coefficient	≤ 1.5
Fines content	< 0.300 mm : 0.3 % max
Coarse beads	> 1.180 mm : 5.0 % max
Reversible swelling	Cl ⁻ → NO ₃ ⁻ : negligible

Suggested Operating Conditions

Maximum operating temperature	80°C (Cl ⁻ form)
Minimum bed depth	700 mm
Service flow rate	5 to 40 BV*/h
Maximum linear velocity	50 m/h
Regenerant	NaCl
Level	125 to 250 g/L
Flow rate	2 to 8 BV/h
Concentration	5 to 10 %
Minimum contact time	30 minutes
Slow rinse	2 to 5 BV
Fast rinse	2 to 8 BV

Applications

The use of IMAC HP555 is specially recommended in the case of waters containing more sulphate than nitrate. In such a case, its operating capacity is higher than that of conventional resins. It is due to the relative affinities towards anions which are as follows :



Another consequence is that the nitrate level after breakthrough will never be higher in the effluent than in the influent.



Quality control

All IMAC HP resins are manufactured and purified specially for use in non industrial applications. Every batch of IMAC HP555 is analysed to ensure its compliance with high purity specifications, in particular :

- Physical and chemical properties
- Individual release of certain substances in the treated water,
- Global release of organic substances expressed in TOC (Total Organic Carbon),
- Total microbial count.

Commissioning

IMAC HP555 is ready to use* : all that is required at the time of commissioning is to perform a full regeneration cycle followed by a rinse with at least 20 bedvolumes of water.

*This is valid only if :

1. the resin is stored at a temperature of less than 25°C and protected from UV radiations,
2. the storage time between production date (printed on the bags) and final use does not exceed 6 months.

For more information about DOW™ resins, call the Dow Water & Process Solutions business:

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