Product Data Sheet

AMBERLITE™ FPA555 Cl Ion Exchange Resin

Strongly Basic Anion Exchange Resin

Description

AMBERLITE™ FPA555 Cl Ion Exchange Resin 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, AMBERLITE FPA555 Cl removes nitrate preferentially to sulfate.

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong base anion
Functional Group	Quaternary ammonium
Physical Form	Cream, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl^-
Total Exchange Capacity	≥ 0.90 eq/L
Water Retention Capacity	50 – 56%
Particle Size [§]	
Particle Diameter	650 – 850 µm
Uniformity Coefficient	≤ 1.5
< 300 µm	≤ 0.3%
> 1180 µm	≤ 5.0%
Stability	
Swelling	$Cl^- \rightarrow NO_3^-$: negligible
Density	
Particle Density	1.055 – 1.085 g/mL
Shipping Weight	720 g/L

[§] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

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Suggested Operating Conditions

Maximum Operating Temperature	80°C (176°F)
Bed Depth, min.	700 mm (2.3 ft)
Flowrates	
Service	5 – 40 BV*/h (or ≤ 50 m/h)
Regeneration	
NaCl	2 – 8 BV/h
Slow Rinse	2 – 5 BV/h
Fast Rinse	2 – 8 BV/h
Contact Time	
Regeneration	≥ 30 minutes
Rinse Requirements	~ 10 BV
Regenerant	NaCl
Concentration	5 – 10%
Level	125 – 250 g/L

Application Information

The use of AMBERLITE™ FPA555 Cl Ion Exchange Resin 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:

$NO3^-$ > $SO4^-$ > Cl^- > $HCO3^-$

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

Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- **WARNING:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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