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AMBERLITE® IRA458 Cl

Acrylic Strong Base Anion Exchanger

PRODUCT DATA SHEET

AMBERLITE IRA458 Cl is an acrylic gel type strongly basic anion exchange resin, with unique chemical and physical properties. It is designed to be used in co-flow regeneration units. It combines high operating capacity and low silica leakage values.

The acrylic structure of AMBERLITE IRA458 Cl allows for effective adsorption during the service run and good desorption during regeneration of the naturally occurring organic molecules present in many water supplies. AMBERLITE IRA458 Cl is recommended as the working anion exchange resin, or in combination with AMBERLITE IRA96 for demineralization of water having up to 30 % silica when low caustic regenerant consumption and good resistance to organic fouling are primarily required.

PROPERTIES

Matrix	Crosslinked acrylic gel structure
Functional Groups	N^+R_3
Physical Form	Transparent white beads
Ionic Form as Shipped	Chloride
Total Exchange Capacity	1.25 meq/ml minimum (Cl^- form)
Moisture Holding Capacity	57 to 64 % (Cl^- form)
Shipping Weight	45 lbs/ft^3
Harmonic Mean Size	0.60 to 0.90 mm
Uniformity Coefficient	1.9 maximum
Maximum reversible swelling	$Cl^- \rightarrow OH^-$: approximately 20 %

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

pH Range	0 to 14
Maximum Operating Temperature	95 °F
Minimum Bed Depth	24 inches
Service Flow Rate	1 to 5 gpm/ft^3
Regenerant (100% basis)	**NaOH**
Flow Rate	0.25 to 0.5 gpm/ft^3
Concentration	2 to 4 %
Level	4 to 10 lbs/ft^3
Minimum Contact Time	30 minutes
Slow Rinse	15 gal/ft^3 at regeneration flow rate
Fast Rinse	30 to 60 gal/ft^3 at service flow rate

HYDRAULIC CHARACTERISTICS (Water Treatment)

AMBERLITE IRA458 Cl gives a pressure drop of about 0.67 psi/ft bed depth per 4.1 gpm/ft^2 at 60 °F. A backwash flow rate of 2..9 gpm/ft^2 gives a bed expansion of about 70 % at 60 °F.
Pressure drop data are valid at the start of the service run with a clear water and a correctly classified bed.

LIMITS OF USE

Rohm and Haas manufactures special resins for food processing and potable water applications. As governmental regulations vary from country to country, it is recommended that potential users seek advice from their Amberlite representative in order to determine the best resin choice and optimum operating conditions.