

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 ⁻ → 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/ft² at 60 °F. A backwash flow rate of 2.9 gpm/ft² 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.



AMBERJET is a trademark of Rohm and Haas Company and its affiliates, Philadelphia, U.S.A.

Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

Rohm and Haas Company makes no warranties either expressed or implied as to the accuracy or appropriateness of these data and expressly excludes any liability upon Rohm and Haas arising out of its use. We recommend that the prospective users determine for themselves the suitability of Rohm and Haas materials and suggestions for any use prior to their adoption. Suggestions for uses of our products of the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company and its affiliates. Material Safety Data Sheets outlining the hazards and handling methods for our products are available on request.