



AMBERLITE® IRA458 Cl

Industrial Grade 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 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.

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] _____	≥ 1.25 eq/L (Cl ⁻ form)
Moisture holding capacity ^[1] _____	57 to 64 % (Cl ⁻ form)
Specific gravity _____	1.06 to 1.10 (Cl ⁻ form)
Shipping weight _____	720 g/L
Particle size _____	
Uniformity coefficient _____	≤ 1.90
Harmonic mean size _____	600 - 900 μm
Fine contents ^[1] _____	< 0.300 mm : 2.0 % max
Coarse beads _____	> 1.180 mm : 20 % max
Maximum reversible swelling _____	Cl ⁻ → OH ⁻ : 20 %

^[1] Contractual value

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS (WATER TREATMENT)

Maximum operating temperature _____	35°C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV*/h
Regenerant _____	NaOH
Flow rate _____	2 to 8 BV/h
Concentration _____	2 to 4 %
Level _____	50 to 150 g/L
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	4 to 8 BV at service flow rate

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin

APPLICATIONS

AMBERLITE IRA458 Cl is designed to be used in co-flow regeneration units. It is recommended as the working anion exchange resin, or in combination with AMBERLITE IRA96 for demineralisation of water having up to 30 % silica when low caustic regenerant consumption and good resistance to organic fouling are primarily required.

AMBERLITE IRA 458 Cl is also used for the decolourisation of sugar juices.

PERFORMANCE

The engineering data sheet EDS 0273 A provide information to calculate the operating capacity and silica leakage of AMBERLITE IRA458 Cl used in water treatment.

HYDRAULIC CHARACTERISTICS

(Water Treatment)

AMBERLITE IRA458 Cl gives a pressure drop of about 14 kPa/m bed depth per 10 m/h at 15°C.

A backwash flow rate of 7 m/h gives a bed expansion of about 70 % at 15°C.

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.

All our products are produced in ISO 9002 certified manufacturing facilities.

Rohm and Haas/Ion Exchange Resins - Philadelphia, PA - Tel. (800) RH AMBER - Fax: (215) 537-4157
Rohm and Haas/Ion Exchange Resins - 75579 Paris Cedex 12 - Tel. (33) 1 40 02 50 00 - Fax : 1 43 45 28 19

WEB SITE: <http://www.rohmhaas.com/ionexchange>



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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.

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