



AMBERLITE® IRA402 Cl

Industrial Grade Strong Base Anion Exchanger

PRODUCT DATA SHEET

AMBERLITE IRA402 Cl is a premium grade strongly basic anion exchange resin of the type 1, with a clear gel structure. It is based on crosslinked polystyrene and has a very high bead integrity, good regeneration efficiency and excellent rinse performance. It is used in co-flow regeneration and conventional counterflow systems with downflow loading and upflow

regeneration with air or water holddown. Combined with a strong acid cation exchanger, AMBERLITE IRA402 Cl reduces both strong and weak acid concentrations to extremely low levels. Its main use is therefore water demineralisation. Other fields of application include the treatment of electroplating waste and the isolation of anionic metal complexes.

PROPERTIES

Matrix _____	Styrene divinylbenzene copolymer
Functional groups _____	-N ⁺ (CH ₃) ₃
Physical form _____	Pale yellow translucent beads
Ionic form as shipped _____	Chloride
Total exchange capacity ^[1] _____	≥ 1.2 eq/L (Cl ⁻ form)
Moisture holding capacity ^[1] _____	49 to 60 % (Cl ⁻ form)
Specific gravity _____	1.063 to 1.093 (Cl ⁻ form)
Shipping weight _____	670 g/L
Particle size _____	
Uniformity coefficient _____	≤ 1.6
Harmonic mean size _____	600 - 750 µm
Fine contents ^[1] _____	< 0.300 mm : 1.0 % max
Coarse beads _____	> 1.180 mm : 5.0 % max
Maximum reversible swelling _____	Cl ⁻ → OH ⁻ : 30 %

^[1] Contractual value

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	60°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 _____	60 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

HYDRAULIC CHARACTERISTICS

AMBERLITE IRA402 Cl gives a pressure drop of about 13 kPa/m bed depth per 10 m/h at 15°C.

A backwash flow rate of 6.5 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

AMBERLITE IRA402 Cl is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

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

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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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