

PRODUCT DATA SHEET
AMBERLITE™ IRA478RF Cl
Industrial Grade Strong Base Anion Exchanger

AMBERLITE IRA478RF Cl resin is an acrylic gel type bifunctional anion exchange resin, with unique chemical and physical properties. It combines the high operating capacity normally associated with weakly basic acrylic anion exchange resins with quaternary ammonium, type 1, strong base functionality. This enables AMBERLITE IRA478RF Cl resin to achieve complete removal of all anions including the weakly dissociated ions like silica and carbon dioxide. Due to its crosslinked acrylic gel structure AMBERLITE IRA478RF Cl resin shows an outstanding resistance to organic fouling.

AMBERLITE IRA478RF Cl resin is recommended as the working anion exchange resin for demineralisation of water having more than 75 % Free Mineral Acidity and up to 10 % silica. Under these conditions AMBERLITE IRA478RF Cl will give excellent operating capacity with low caustic regenerant consumption. The particle size distribution of AMBERLITE IRA478RF Cl resin has been specially selected to give optimum performance in floating and packed bed applications (RF means reverse flow).

PROPERTIES

Physical form _____	Translucent white spherical beads
Matrix _____	Crosslinked acrylic gel structure
Functional group _____	Quaternary ammonium/tertiary amine
Ionic form as shipped _____	Free Base and Chloride
Total exchange capacity ^[1] _____	≥ 1.15 eq/L
Moisture holding capacity ^[1] _____	57 to 65 %
Shipping weight _____	660 g/L
Particle size	
Uniformity coefficient ^[1] _____	≤ 1.8
Harmonic mean size ^[1] _____	0.700 to 0.980 mm
< 0.355 mm ^[1] _____	1.0 % max

^[1] Contractual value

Test methods available upon request

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	35 °C
Minimum bed depth _____	1000 mm (preferably > 1400 mm)
Service flow rate _____	5 to 40 BV*/h
Regeneration	
Regenerant _____	NaOH
Level _____	40 to 70 g/L
Concentration _____	2 to 4 %
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

PERFORMANCE

The operating capacity depends on several factors such as the water analysis and the level of regeneration. The data to calculate the operating capacity and the silica leakage of AMBERLITE IRA478RF Cl resin are given in the Engineering Data Sheet EDS 0232 A.

HYDRAULIC CHARACTERISTICS

AMBERLITE IRA478RF Cl resin gives a pressure drop of about 10 kPa/m bed depth per 10 m/h at 15°C.

A backwash flow rate of 7.5 m/h gives a bed expansion of about 70 % at 15°C.

LIMITS OF USE

AMBERLITE IRA478RF Cl resin 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.



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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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LENNTECH WATER TREATMENT AND Air purification
