

PRODUCT DATA SHEET

**AMBERLITE™ IRA67RF**  
**Industrial Grade Weak Base Anion Exchanger**

AMBERLITE IRA67RF resin is a weak base anion exchange resin with a gel type acrylic matrix. It has a high capacity, excellent physical stability, fast kinetics, outstanding resistance to organic fouling and basicity higher than that of polystyrenic weak base resins. The flexible acrylic structure of AMBERLITE IRA67RF resin allows for effective

adsorption and desorption of naturally occurring organic molecules, such as humic and fulvic acids, that are present in many water supplies. The particle size distribution of AMBERLITE IRA67RF resin has been specifically selected to give optimum performance in packed bed and floating bed applications.

**PROPERTIES**

Physical form _____	Translucent white spherical beads
Matrix _____	Crosslinked acrylic gel structure
Functional group _____	Tertiary amine
Ionic form as shipped _____	Free Base (FB)
Total exchange capacity <sup>[1]</sup> _____	≥ 1.60 eq/L (FB form)
Moisture holding capacity <sup>[1]</sup> _____	56 to 64 % (FB form)
Shipping weight _____	660 g/L
Particle size	
Uniformity coefficient <sup>[1]</sup> _____	≤ 1.70
Harmonic mean size <sup>[1]</sup> _____	0.700 – 0.950 mm
< 0.355 mm <sup>[1]</sup> _____	0.5 % max
Reversible swelling _____	FB → Cl <sup>-</sup> ≤ 30 %

<sup>[1]</sup> 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
Regeneration	
Regenerant _____	NaOH
Level _____	130 % of ionic load
Concentration _____	2 to 4 %
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	8 to 16 BV at 10 BV/h

\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> resin

## PERFORMANCE

### Operating capacity

The actual exchange capacity of AMBERLITE IRA67RF resin depends on a number of factors :

- composition of water (particularly CO<sub>2</sub> and SO<sub>4</sub> content),
- specific flow rate,
- ionic load.

AMBERLITE IRA67RF resin offers an operating capacity 15 to 30 % higher than that of polystyrenic weak base resins.

The engineering data sheet EDS 0255 A provides information to calculate the operating capacity of AMBERLITE IRA67RF resin used in water treatment.

### Regeneration

Optimum regeneration conditions correspond to a quantity of caustic soda equivalent to 120 to 140 % of the operating capacity. It is not recommended to use higher regeneration ratios, as the excess caustic soda might lead to an increase of the rinse water volume required. The latter can be minimized by recycling the rinse effluent through the upstream cation exchange resin.

### Organic matter

The aliphatic structure of AMBERLITE IRA67RF resin gives it slightly less affinity for organic acids found in surface waters than polystyrene weak base resins. This weaker affinity combined with the flexible acrylic polymer structure allows for more complete elution of the organics from the resin. Therefore, AMBERLITE IRA67RF resin offers a large reversible capacity for the removal of organic matter.

## HYDRAULIC CHARACTERISTICS

AMBERLITE IRA67RF resin gives a pressure drop of about 10 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 65 % at 15 °C.

## LIMITS OF USE

AMBERLITE IRA67RF resin is suitable for industrial water treatment. 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 9001 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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