

PRODUCT DATA SHEET

**AMBERLITE™ IRI 20 Na**  
**Industrial Grade Strong Acid Cation Exchanger**

AMBERLITE IRI20 Na resin is a gel type strongly acidic cation exchange resin of the sulfonated polystyrene type. It is used for water softening (in Na<sup>+</sup> form) as well as for water demineralisation (in H<sup>+</sup> form) in co-flow regenerated units. AMBERLITE

IRI20 Na resin is an excellent general purpose cation exchange resin that can be used for a wide variety of industrial water treatment applications including both softening and demineralisation.

**PROPERTIES**

Physical form _____	Amber spherical beads
Matrix _____	Styrene divinylbenzene copolymer
Functional group _____	Sulfonate
Ionic form as shipped _____	Na <sup>+</sup>
Total exchange capacity <sup>[1]</sup> _____	≥ 2.00 eq/L (Na <sup>+</sup> form)
Moisture holding capacity <sup>[1]</sup> _____	45 to 50 % (Na <sup>+</sup> form)
Shipping weight _____	840 g/L
Particle size	
Uniformity coefficient <sup>[1]</sup> _____	≤ 1.9
Harmonic mean size <sup>[1]</sup> _____	0.600 to 0.800 mm
< 0.300 mm <sup>[1]</sup> _____	2 % max
Maximum reversible swelling _____	Na <sup>+</sup> → H <sup>+</sup> ≤ 11 %

<sup>[1]</sup> Contractual value

Test methods available upon request.

**SUGGESTED OPERATING CONDITIONS**

Maximum operating temperature _____	135 °C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV*/h
Regeneration	
Regenerant _____	HCl            H <sub>2</sub> SO <sub>4</sub> NaCl
Level (g/L) _____	50 to 150    60 to 240    80 to 250
Concentration (%) _____	5 to 8        0.7 to 6     10
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	2 to 4 BV at service flow rate

\* 1 BV (Bed Volume) = 1 m<sup>3</sup> solution per m<sup>3</sup> 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 ionic leakage with co-flow regeneration are given in the Engineering Data Sheets: EDS 0262 A, EDS 0264 A and EDS 0265 A.

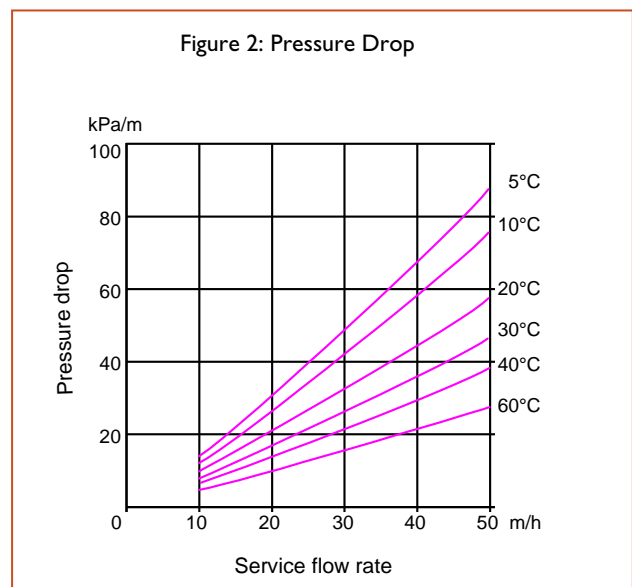
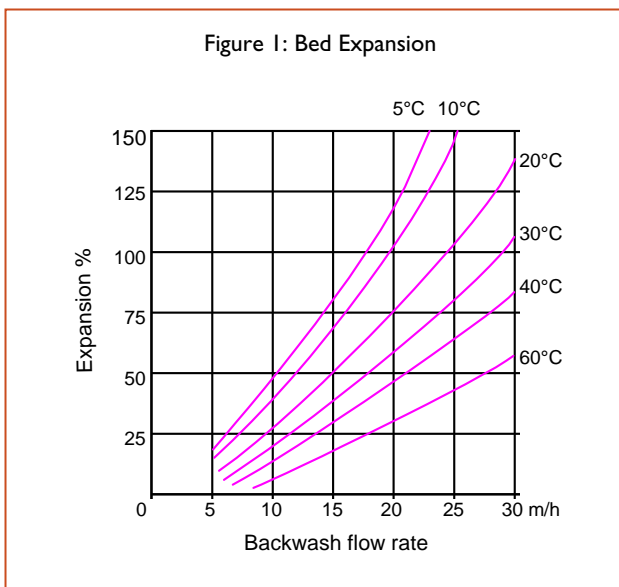
## LIMITS OF USE

AMBERLITE IR120 Na resin is suitable for industrial uses. For 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.

## HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERLITE IR120 Na resin, as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IR120 Na resin, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.



## ROHM AND HAAS

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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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