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AMBERLITE[®] IRN9652

Industrial Grade Strong Acid Cation Exchanger

Introduction

AMBERLITE IRN9652 is a nuclear grade strongly acidic cation exchange resin. It has a highly crosslinked macroporous polystyrene matrix and can be used in nuclear power plants to remove cationic contaminants and radioisotopes from various process streams. AMBERLITE IRN9652 has an excellent affinity for caesium 137.

Properties

Matrix	Styrene divinylbenzene copolymer
Functional groups	Sulphonate
Physical form	Amber beads
Ionic form as shipped	H ⁺ (99 % minimum)
Total exchange capacity	≥ 1.95 eq/L (H ⁺ form)
Shipping weight	800 g/L
Particle Size	0.60 to 0.80 mm
Harmonic mean size	≤ 1.7
Uniformity coefficient	< 0.300 mm : 0.2 % max
Fines content	> 1.180 mm : 3.0 % max
Coarse beads	Insoluble in dilute acids or bases and in common solvents
Chemical resistance	-

Applications

AMBERLITE IRN 9652 is used to remove cationic impurities and radio isotopes from solution. Due to its high exchange capacity and its specific affinity for caesium, it is also used for the treatment of the primary circuit in PWR power plants. AMBERLITE IRN 9652 is also used for the steam generator blowdown treatment when conditioning is made with morpholine.

Purity

As all nuclear grade products, AMBERLITE IRN 9652 has been manufactured to meet all recognized specifications of the nuclear industry.

Its purity specifications meet the following values (expressed in mg/kg dry product):

Fe	100
Na	60
Cu	30
Al	50
Co	30
Pb	30
Hg	20

Limits of use

AMBERLITE IRN9652 is suitable for industrial users. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Dow Water & Process Solutions in order to determine the best resin choice and optimum operating conditions.

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE IRN9652 as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRN9652, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with a clear water and a correctly classified bed.

Fig. 1 : Bed Expansion

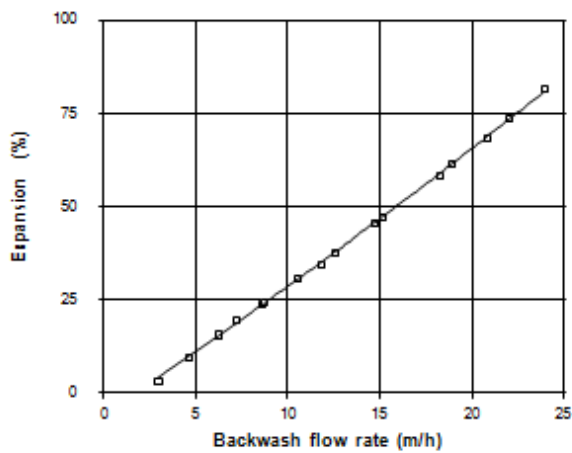
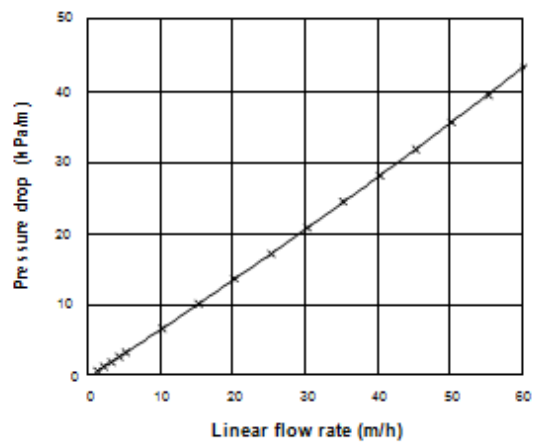


Fig. 2 : Pressure Drop



For more information about DOW™ resins, call the Dow Water & Process Solutions business:

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