



# AMBERLITE® IRN78

Industrial Nuclear Grade Strong Base Anion Resin

## PRODUCT DATA SHEET

AMBERLITE IRN78 is a uniform particle size strongly basic gel type polystyrene anion exchange resin supplied in the hydroxide form. This resin is nuclear grade and processed to the highest purity standards required for treating water in the nuclear power industry.

AMBERLITE IRN78 contains a minimum of 95% of the exchange sites in the hydroxide form and a maximum of 0.1 % in the chloride form.

The uniform particle size and the absence of fine resin beads results in a lower pressure drop compared to conventional resins.

### PHYSICAL CHARACTERISTICS

Physical form _____	Uniform particle size spherical beads
Shipping weight _____	690 g/L
Harmonic mean size _____	630 ± 50µm
Uniformity coefficient _____	≤ 1.2
Particle size <sup>[1]</sup> _____	< 0.300 mm : 0.2 % max
	> 1.180 mm : 2.0 % max
Whole beads _____	95 % minimum
Breaking weight (average) _____	≥ 350 g/bead
> 200 g/bead _____	≥ 95 %

### CHEMICAL CHARACTERISTICS

Matrix _____	Polystyrene DVB gel
Functional groups _____	Trimethylammonium
Ionic form as shipped _____	OH <sup>-</sup>
Total exchange capacity <sup>[2]</sup> _____	≥ 1.2 eq/L (OH <sup>-</sup> form)
Strong base capacity <sup>[1]</sup> _____	≥ 90 %
Moisture holding capacity <sup>[1]</sup> _____	54 to 60 % (OH <sup>-</sup> form)
Ionic conversion <sup>[1]</sup> _____	95 % min OH <sup>-</sup>
	5 % max CO <sub>3</sub> <sup>=</sup>
	0.1 % max Cl <sup>-</sup>
	0.1 % max SO <sub>4</sub> <sup>=</sup>

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

<sup>[2]</sup> Average value calculated from statistical quality control  
Test methods and SQC charts are available on request.

### RECOMMENDED OPERATING CONDITIONS

Minimum bed depth _____	800 mm
Maximum operating temperature _____	60 °C
Service flow rate _____	8 to 50 BV*/h
Service velocity _____	60 m/h maximum

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

