

Nuclear Grade Ion Exchange Resin

Purolite NRW100 is a nuclear grade strong acid cation exchange resin especially designed for the removal of cations including radioactive isotopes from aqueous solutions. The product contains extremely low levels of other metal cations and is carefully converted to the hydrogen form. It may be mixed in the desired ratio with the strong base anion resin Purolite NRW400, which is supplied highly converted to the hydroxide form. Such mixtures are capable of removing both cationic and anionic contaminants. All Purolite nuclear resins are supplied to exacting standards of high purity as given in the specifications below. Alternatively Purolite NRW100Li and NRW100Li7 are available for removal of radioactive contaminants from primary circuits of nuclear power plants conditioned with natural lithium or lithium7.

Basic Features:

Application	Removal of Radioactive Isotopes from Aqueous Solution
Polymer Structure	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Sulphonic acid
Ionic form as shipped	H ⁺

Typical Physical and Chemical Characteristics:

Total Capacity (min.)	H ⁺	1.80 eq/l
Total Capacity (min.)	H ⁺	39.30 kGr/ft ³
Moisture Retention	H ⁺	51-55 %
Mean Size Typical		0.65-0.90 mm
Uniformity Coefficient (max.)		1.70
Reversible Swelling (max.)	Na ⁺ → H ⁺	8 %
Specific Gravity		1.20 g/ml
Shipping Weight (approx.)		755-790 g/l
Shipping Weight (approx.)		47.2-49.4 lbs/ft ³
Temp Limit	H ⁺	120 °C
Temp Limit	H ⁺	250 °F
pH Limits		0-14
Ionic Form (min.)		99.90 %
Impurities Sodium (max.)		40 ppm
Impurities Iron (max.)		50 ppm

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Impurities Heavy Metals(max.)	30 ppm
Impurities Heavy Metals	40 ppm

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