PUROLITE
ION EXCHANGE RESINS

Product Data Sheet

PUROLITE® NRW37Li7

Nuclear Grade Mixed Bed

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Nuclear Grade Mixed Bed Exchange Resin

Purolite NRW37 Li7 is a nuclear grade mixed bed resin especially designed for the removal of radioactive contaminants from primary circuits of nuclear power plants conditioned with lithium 7 isotope. The product is an equilibrium mixture (chemical equivalents) of Purolite NRW100 carefully converted to the high purity lithium 7 isotope form, and Purolite NRW400 which is supplied highly converted to the hydroxide form. The mixture is capable of removing both cationic and anionic contaminants while maintaining the concentration of lithium hydroxide conditioner at near the correct dose level within the sealed circuit. All Purolite nuclear resins are supplied to exacting standards of high purity as given in the specifications below.

Basic Features:

Application	Decontamination of Pressurized Water Reactor (PWR) Circuits
Polymer Structure	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Sulphonic Acid and Type 1 Quaternary Ammonium
Ionic form as shipped	$7Li^+$ / OH^-

Typical Physical and Chemical Characteristics:

Cation Component		Gel strong acid cation
Anion Component		Gel strong base anion
Cation / Anion Ratio		35/65 %
Total Capacity (min.)	$7Li^+$	1.80 eq/l
Total Capacity (min.)	$7Li^+$	39.30 kGr/ft^3
Total Capacity (min.)	OH^-	1.00 eq/l
Total Capacity (min.)	OH^-	21.80 kGr/ft^3
Moisture Content		65 %
Mean Size Typical		0.65-0.90 mm
Uniformity Coefficient (max.)		1.70
Shipping Weight (approx.)		710-745 g/l
Shipping Weight (approx.)		44.4-46.6 lbs/ft^3
Temp Limit	Non-Regenerable Bed	100 °C
Temp Limit	Non-Regenerable Bed	212 °F
Temp Limit	Regenerable Bed	60 °C

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Temp Limit	Regenerable Bed	140 °F
pH Limits		0-14
CationicForm (min.)		99.90 %
Anionic Form(min.)	OH^-	95 %
Anionic Form(max.)	$CO3^-$	5 %
Anionic Form(max.)	Cl^-	0.10 %
Anionic Form(max.)	$SO4^-$	0.30 %
Impurities Sodium (max.)		30 ppm
Impurities Iron (max.)		80 ppm

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