

Product Data Sheet

DIAION™ USMN3

DIAION™ USMN3 is a nuclear grade mixed resin with strongly acidic cation exchange resin, DIAION™ UBKN1, with ⁷Li form and strongly basic anion exchange resin, DIAION™ UBAN1. It is used for cleanup system in primary circuit of PWR nuclear power plants.

Product

Grade Name	DIAION™ USMN3	
Type	Mixed	
Matrix	Styrene-DVB, Gel	
Functional Group	Sulfonic acid / Type I (trimethyl ammonium groups)	
Ionic Form	⁷ Li ⁺ / OH ⁻	
Chemical equivalent ratio	1 / 1	

Specification

Component	Cation exchange resin		Anion exchange resin
	DIAION™ UBKN1 (⁷ Li form)		DIAION™ UBAN1
Whole Bead Count	-	95 min.	90 min.
Salt Splitting Capacity	meq/mL	2.4 min.	1.2 min.
Average Diameter	μm	600 - 730	630 ± 50
Particle Size Distribution on 1180 μm	%	-	0.5 max.
Particle Size Distribution on 850 μm	%	0.5 max.	-
Particle Size Distribution 425 - 1180 μm	%	-	98 min.
Particle Size Distribution 425 - 850 μm	%	95 min.	-
Particle Size Distribution thr. 425 μm	%	1 max.	1.0 max.
Uniformity Coefficient	-	1.2 max.	1.2 max.
Ionic Conversion (⁷ Li ⁺)	eq%	99 min.	-
Ionic Conversion (Na ⁺)	eq%	0.1 max.	-
Ionic Conversion (OH ⁻)	eq%	-	95 min.
Ionic Conversion (CO ₃ ²⁻)	eq%	-	5 max.
Ionic Conversion (Cl ⁻)	eq%	-	0.2 max.
Metal Content (Ca)	mg/L	50 max.	50 max.
Metal Content (Pb)	mg/L	10 max.	10 max.
Metal Content (Fe)	mg/L	50 max.	50 max.
Metal Content (Cu)	mg/L	10 max.	10 max.
Water Extractables	g/L-R	0.5 max.	0.1 max.

Typical Properties

Component	Mixed resin
Shipping Density	g/L 730

Recommended Operating Conditions

Maximum Operating Temperature	°C	60
Operating pH Range		0 - 14
Minimum Bed Depth	mm	800
Service Flow Rate	m/h	10 - 60

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