

Product Data Sheet

DIAION™ USMN1

DIAION™ USMN1 is a nuclear grade mixed resin with strongly acidic cation exchange resin, DIAION™ UBKN1, and strongly basic anion exchange resin, DIAION™ UBAN1. It is used for cleanup system in primary circuit, cleanup system SFP, radwaste, etc.

Product

Grade Name	DIAION™ USMN1	
Type	Mixed	
Matrix	Styrene-DVB, Gel	
Functional Group	Sulfonic acid / Type I (trimethyl ammonium groups)	
Ionic Form	H ⁺ / OH ⁻	
Chemical Equivalent Ratio	1 / 1	

Specification

Component		Cation Exchange Resin		Anion Exchange Resin	
		DIAION™ UBKN1		DIAION™ UBAN1	
Whole Bead Count	-	90 min.	-	-	-
Salt Splitting Capacity	meq/mL	2.4 min.		1.2 min.	
Particle Size Distribution on 1180 μm	%	-		0.5 max.	
Particle Size Distribution thr. 425 μm	%	1.0 max.		1.0 max.	
Particle Size Distribution 425 - 1180 μm	%	95 min.		-	
Mean Particle Size	μm	650 ± 50		630 ± 50	
Uniformity Coefficient	-	-		1.2 max.	
Ionic Form Conversion H Form	eq%	99 min.		-	
Ionic Form Conversion Na Form	eq%	0.1 max.		-	
Ionic Form Conversion OH Form	eq%	-		95 min.	
Ionic Form Conversion CO ₃ Form	eq%	-		5 max.	
Ionic Form Conversion Cl Form	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	0.1 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	BV/h	10 - 60

1 BV(Bed Volume)=1 m³/m³-resin

Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ USMN1 resin in normal down flow operation is shown in the graphs below.

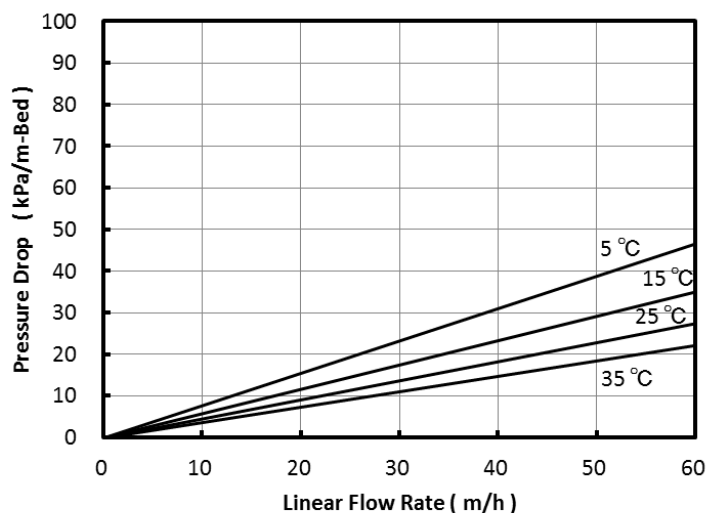


Fig. 1 Pressure Drop of USMN1

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