Product Data Sheet

DIAION™ SMN1

DIAION™ SMN1 is a nuclear grade mixed resin with strongly acidic cation exchange resin, DIAION™ SKN1, and strongly basic anion exchange resin, DIAION™ SAN1. It is used for cleanup system in primary circuit, cleanup system of SFP, radwaste, etc.

Product

Grade Name	DIAION™ SMN1
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 DIAION™ SKN1	Anion Exchange Resin DIAION™ SAN1
Salt Splitting Capacity	meq/mL	1.7 min.	1.0 min.
Particle Size Distribution 425 - 1180 µm	%	95 min.	95 min.
Particle Size Distribution thr. 425 µm	%	1.0 max.	1.0 max.
Ionic Form Conversion H Form	eq%	99 min.	-
Ionic Form Conversion Na Form	eq%	0.1 max.	-
Ionic Form Conversion OH Form	eq%	-	90 min.
Ionic Form Conversion CO_3 Form	eq%	-	10 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.	-
Metal Content (Cu)	mg/L	10 max.	-
Water Extractables	g/L	0.1 max.	0.1 max.

Typical Properties

Component		Mixed resin
Shipping Density	g/L	720

Component		Cation Exchange Resin DIAION™ SKN1	Anion Exchange Resin DIAION™ SAN1
Mean Particle Size	µm	700	730
Particle Density	g/mL	1.20	1.07
Total Swelling (Na^+ to H^+)	%	9	-
Total Swelling (Cl^- to OH^-)	%	-	23

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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Hydraulic Characteristics

The approximate pressure drop at various temperatures and flow rates for each meter of bed depth of DIAION™ SMN1 resin in normal down flow operation is shown in the graphs below.

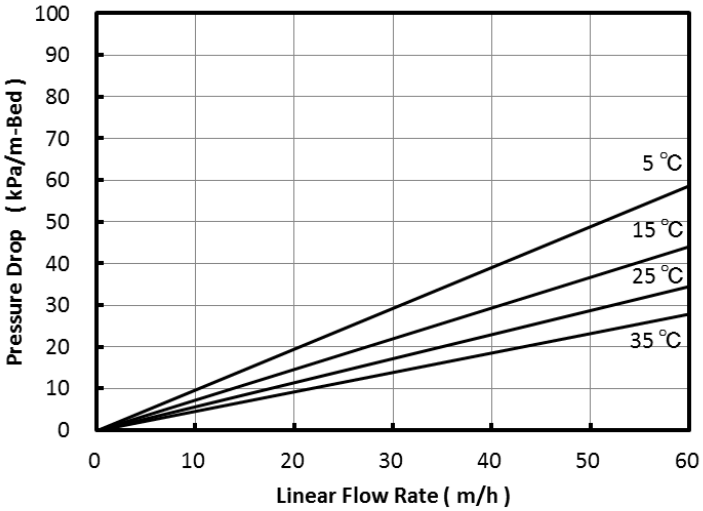

Fig. 1 Pressure Drop of SMN1

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