

Product Data Sheet

DIAION™ SMNUPB

DIAION™ SMNUPB is a mixed resin with strongly acidic cation exchange resin, and strongly basic anion exchange resin. It is used for non-regenerable mixed bed ion exchange applications for higher purity water.

Product

Grade Name	DIAION™ SMNUPB	
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	Mixed resin	
Resistivity within 5 minutes	MΩ·cm	15 min.
Resistivity within 30 minutes	MΩ·cm	17.5 min.

Typical Properties

Component	Mixed resin		
Shipping Density	g/L	710	
Component		Cation exchange resin	Anion exchange resin
Whole Bead Count	-	90 min.	-
Salt Splitting Capacity	meq/mL	1.7 min.	0.9 min.
Water Content	%	50 - 60	62 - 72
Particle Size Distribution on 1180 μm	%	5 max.	5 max.
Particle Size Distribution thr. 300 μm	%	1 max.	1 max.
Mean Particle Size	μm	700	720
Effective Size	mm	0.40 min.	0.40 min.
Uniformity Coefficient	-	1.6 max.	1.6 max.
Ionic Form Conversion (H ⁺)	eq%	99 min.	-
Ionic Form Conversion (OH ⁻)	eq%	-	90 min.
Ionic Form Conversion (Cl ⁻)	eq%	-	1 max.
Particle Density	g/mL	1.20	1.08
Total Swelling (Na ⁺ to H ⁺)	%	9	-
Total Swelling (Cl ⁻ to OH ⁻)	%	-	24

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

Hydraulic Characteristics

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

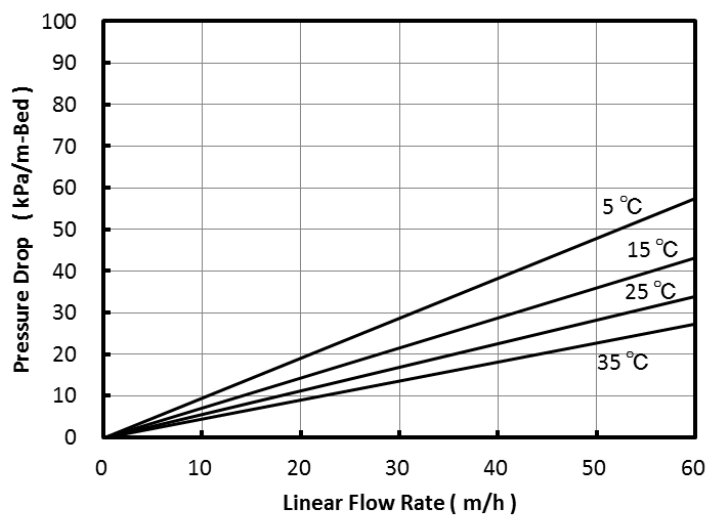


Fig. 1 Pressure Drop of SMNUPB

Rinse Performance

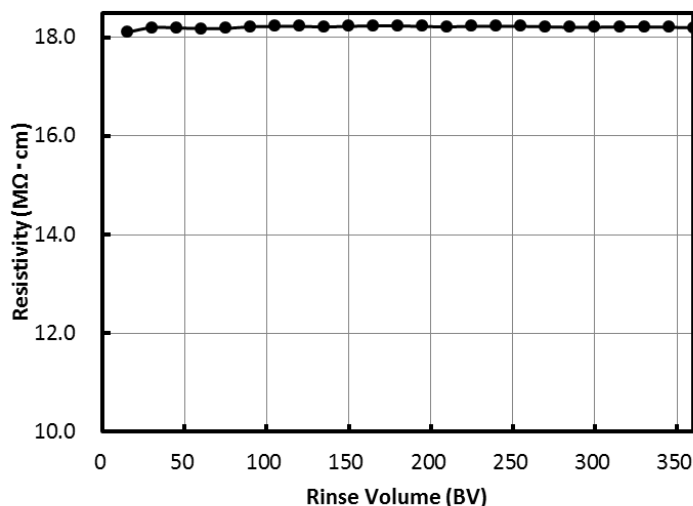


Fig. 2 Resistivity versus Rinse Volume for SMNUPB
Flow rate : SV 30 (15 L/hr), Resin volume : 500 mL-R

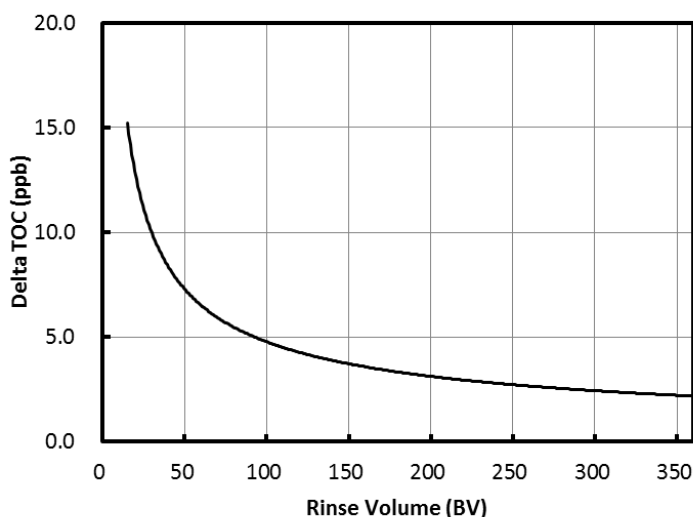


Fig. 3 Delta TOC versus Rinse Volume for SMNUPB
Flow rate : SV 30 (15 L/hr), Resin volume : 500 mL-R

Notice

DIAION™ is a registered trademark of Mitsubishi Chemical Corporation. The information contained herein is believed to be true and accurate, but all data, recommendations and suggestions are provided without guarantee, since the conditions of use are beyond our control and can affect the performance and properties of our products. The user is solely responsible for confirming that our product is suitable for the intended end use, and for compliance with all legal regulations and patents. Other than compliance with published Mitsubishi Chemical Corporation specifications agreed to pursuant to a signed writing during the warranty period, and except as required by law, MITSUBISHI CHEMICAL CORPORATION AND ITS AFFILIATES MAKE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If a product is found to be defective during the warranty period, user's sole remedy and our sole obligation is, at our option, replacement of the affected product or refund of the purchase price. Except as required by law, we are not liable for any damage, harm or loss resulting from our product, whether direct, indirect, consequential, incidental or special, and irrespective of legal theory asserted, including strict liability, contract, warranty, or negligence.