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10304 - Column Application Note Characterization of Poly(DADMAC)

Polydiallyldimethylammonium chloride, or shortened poly(DADMAC) is a homopolymer of diallyldimethylammonium chloride (DADMAC). It is used for controlling disturbing substances in the papermaking process, in the short circulation of paper mills to enhance retention and dewatering, to improve the efficiency of disk filters and flotators, and for cationization of fillers to provide maximal filler retention. Poly(DADMAC) can also be used as a flocculant to improve soap separation process in the evaporation plant of kraft pulp mills thus contributing to higher tall oil yield.

Experimental Setup

Mobile Phase:	Water Sodium chloride 0.1M Trifluoroacetic acid 0.1Vol%
Stationary Phase:	PSS NOVEMA Max
Flow rate [mL/min]:	0,50
Temperature [°C]:	25
Detection:	GPC1200 Refractive index
Calibration:	Kit Poly(2-vinylpyridine)
Data processing:	PSS WinGPC

Recommandations for Sample Concentration

narrow PDI	
M 100 Da - 10 000 Da:	2 g/L
M 10 000 Da - 1 000 000 Da:	1-2 g/L
M > 1 000 000 Da:	0.5 g/L or less
broad PDI (>1.5)	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	20

Suitable Columns

low molecular weights:	P/N 212-0011 (set of 3) OR nma083010lis (1 linear)
medium molecular weights:	P/N 212-0012 (set of 3) OR nma083010lim (1 linear)
high molecular weights:	P/N 212-0003 (set of 3) OR nma083010lxl (1 linear)
ultrahigh molecular weights:	P/N 212-0004 (set of 3) OR nma083010luh

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