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10297 - Column Application Note Characterization of Poly(ethylene glycol) II

Poly (ethylene glycol) (PEG) or Poly(ethylene oxide) (PEO) refers to an oligomer or polymers of ethylene oxide. The two names are chemically synonymous, but historically PEG refers to lower molecular weights, PEO to higher molecular weights. PEGs with molecular weights below 25 000 Da are liquids, higher molecular weight PEOs are solid. Poly(ethylene glycol) is non-toxic and is used in a variety of products. New stationary phase materials with a smaller particle size allow a better separation in aqueous systems.

Experimental Setup

Mobile Phase:	Water Sodium azide 0.05%
Stationary Phase:	PSS SUPREMA
Flow rate [mL/min]:	1,00
Temperature [°C]:	25
Detection:	Shodex-RI71
Calibration:	ReadyCal-Kit Poly(ethylene glycol)
Data processing:	PSS WinGPC

Recommandations for Sample Concentration

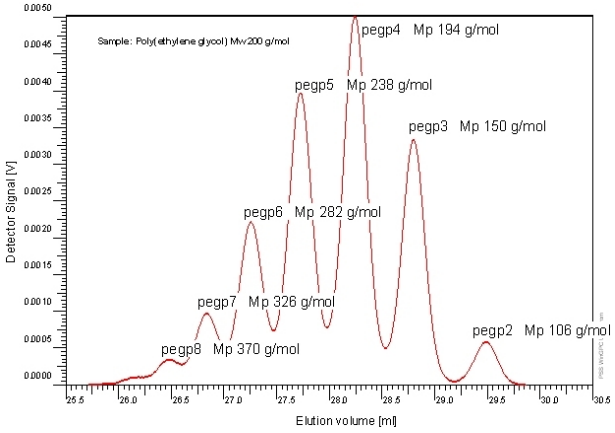
narrow PDI	
M 100 Da - 10 000 Da:	2 g/L
M 10 000 Da - 1 000 000 Da:	1-2 g/L
M > 1 000 000 Da:	0.5 g/L or less
broad PDI (>1.5)	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	20

Suitable Columns

low molecular weights:	P/N 206-0001 (set of 3) OR sua083005lis (1 linear)
medium molecular weights:	P/N 206-0002 (set of 3) OR sua083005lim (1 linear)
high molecular weights:	P/N 206-0003 (set of 3) OR sua083010lxl (1 linear)
ultrahigh molecular weights:	P/N 206-0004 (set of 3) OR sua083010luh (1 linear)

PEG on SUPREMA with small particle size for separation into single oligomers

separation on PSS SUPREMA



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