10009 - Column Application Note
Characterization of Cellulose Triacetate

A part of **Agilent**

Cellulose triacetate is prepared from cellulose with acetic acid anhydrid in acetic acid, catalyzed by strong acids like sulfuric acid. Cellulosetriacetate is mainly used for photographic films but also in many other applications. It is soluble in dichloromethane and acetic acid. Cellulosetriacetate resists against aliphatics, but decomposes in alcohols, acetone, acetic acid and bases.

Experimental Setup

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Mobile Phase:	Tetrahydrofuran
Stationary Phase:	PSS SDV
Flow rate [mL/min]:	1,00
Temperature [°C]:	25
Detection:	Shodex-RI71
Calibration:	ReadyCal-Kit Poly(styrene)
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)

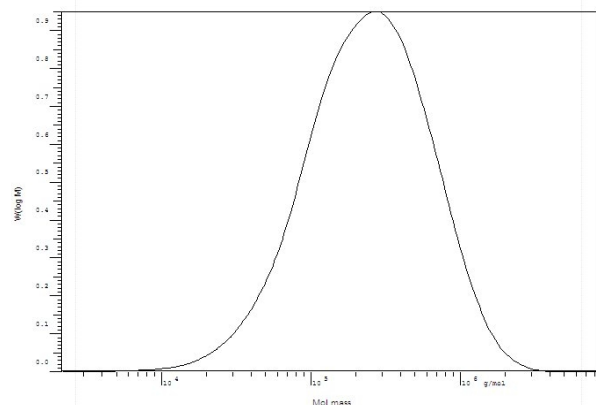|	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	100

Suitable Columns

low molecular weights:	P/N 201-0001 (set of 3) OR sda083003lis (1 linear)
medium molecular weights:	P/N 201-0002 (set of 2) OR sda083005lim (1 linear)
high molecular weights:	P/N 201-0003 (set of 3) OR sda083005lxl (1 linear)
ultrahigh molecular weights:	P/N 202-0001 (set of 3)

Elugram and Calibration
separation on PSS SDV
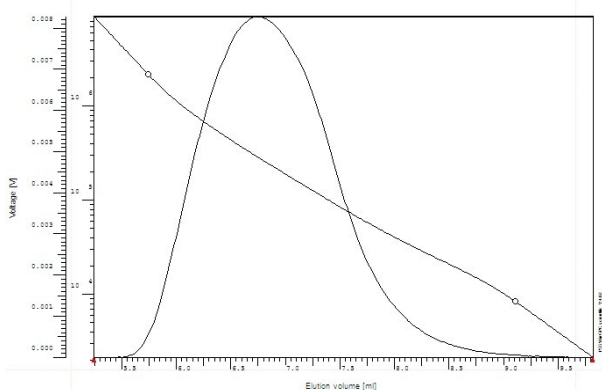
Molar Mass Distribution
separation on PSS SDV