

### Errata Notice

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## # 10299 - Column Application Note Characterization of Poly(isoprene-1.4)

One of the most well known natural polymers is polyisoprene, or natural rubber. Natural rubber is a polymer of (mostly) cis-1,4-polyisoprene with a molecular weight of 100 000 to 1 000 000 Da. Gutta percha is composed of trans-1,4-polyisoprene, a structural isomer which has similar, but not identical properties.

Natural rubber is an elastomer and a thermoplastic. If rubber is vulcanized it will turn into a thermoset. Most rubber in everyday use is vulcanized to a point where it shares properties of both; i.e., if it is heated and cooled, it is degraded but not destroyed. Polyisoprene can be made synthetically by polymerization of isoprene using Ziegler-Natta catalysts.

### Experimental Setup

Mobile Phase:	Tetrahydrofuran
Stationary Phase:	PSS SDV
Flow rate [mL/min]:	1,00
Temperature [°C]:	25
Detection:	GPC1200 Refractive index
Calibration:	Kit Poly(isoprene-1.4)
Data processing:	PSS WinGPC



### Recommendations for Sample Concentration

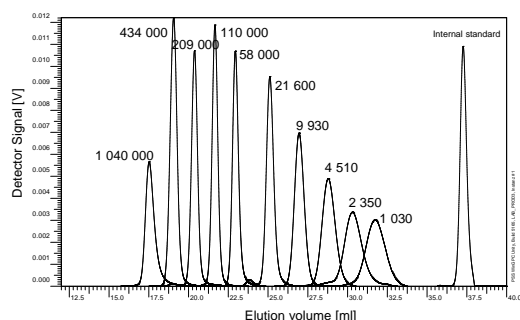
narrow PDI	
M 100 Da - 10 000 Da:	2 g/L
M 10 000 Da - 1 000 000 Da:	1-2 g/L
M > 1 000 000 Da:	0.5 g/L or less
broad PDI (>1.5)	
all molar masses:	3.0 - 5.0 g/L
Injection volume [µL]:	20

### Suitable Columns

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

**Overlay of different molar masses.**  
separation on PSS SDV

separation on PSS SDV



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