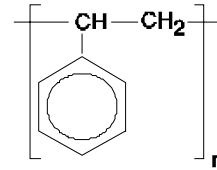
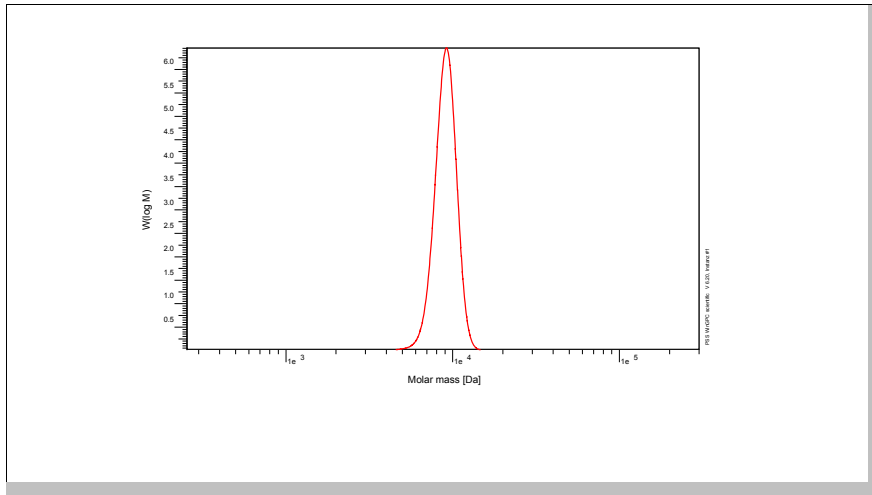


# Certificate of Analysis

Polymer type: Poly(styrene)  
 Part No: PSS-vps9k  
 Lot No: ps21061vl



## Molar Mass Distribution



## GPC/SEC - Conditions

Sample concentration	1.00 g/l	Injection volume	20 µl
Solvent	Tetrahydrofuran	Flow rate	1.0 ml/min
Columns [analytical, each 8 x 300 mm]	PSS SDV 5µm 10e3Å / 10e5Å / 10e6Å	Temperature	25 °C
Data Acquisition Software	PSS WinGPC		
calibration:	12 PSS Poly(styrene) standards		

## GPC/SEC - Results

Detector	Mw [Da]	Mn [Da]	Mp [Da]	PDI [Mw/Mn]
Shodex 71	8900	8650	9130	1.03

## Additional Methods - Results

Method	Mw [Da]	[η] [ml*g <sup>-1</sup> ]
Light Scattering	8970	-
Intrinsic viscosity	-	7.45

All analysis run according to ISO EN 13885 and DIN 55672

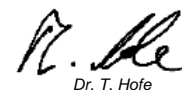
### Note:

Mw = Weight average molecular weight  
 Mn = Number average molecular weight  
 Mp = Molar mass at the peak maximum  
 PDI = Polydispersity Index

**Storage:** Store the tightly recapped polymer standard in a dry, dark, cool area; e.g. a refrigerator (4 °C).

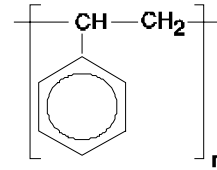
**Date of expiry:** See product label.

*Manufacture and control according to PSS method of analysis*



Dr. T. Hofe  
production director

Polymer type: Poly(styrene)  
 Part No: PSS-vps9k  
 Lot No: ps21061vl



### Light Scattering – Conditions

Light Scattering run on-line, based on Toluene Rayleigh Ratio  $R_{\theta} = 1.404 \cdot 10^{-5} \text{ cm}^{-1}$  at 633 nm

Instrument:	Wyatt Tech DAWN-F detector, 488nm
Data Acquisition Software	using 12 angles
Solvent:	Tetrahydrofuran
Temperature:	23 °C
Flow rate:	1,00 ml/m
Precolumn [8 x 50 mm]:	PSS SDV 5µm
Columns [analytical, each 8 x 300 mm]:	PSS SDV 5µm 10e3A / 10e5A / 10e6A
Sample concentration:	2,173 g/l
Inject volume:	100 µl
Sample dn/dc:	0.200 ml/g

### Viscometry – Conditions

Instrument:	Viscotek Model 110
Solvent:	Tetrahydrofuran at 30 °C, using 4 concentrations between 1 - 4 g/l

