

# Certificate of Analysis



Agilent Technologies, Inc. acquired Polymer Standards Service GmbH (PSS) on August 01<sup>st</sup>, 2022.

The Quality Certificate / Certificate of Analysis generated by PSS attached to this Letter is valid for the Product stated in the Certificate sold to You by Agilent Technologies, Inc or its subsidiaries.

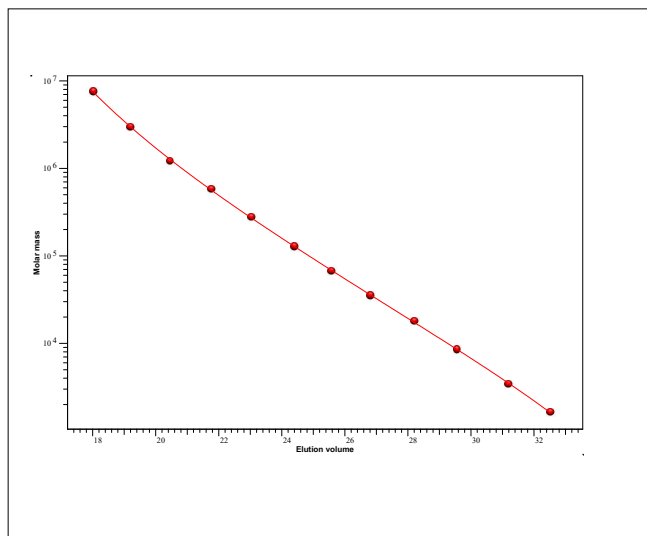
Patrick Kunzweiler

Quality Manager  
Liquid Phase Separation Division

# Certificate of Analysis

Product: ReadyCal-Kit Poly(styrene) high  
 Part No: PSS-PSKITR1H  
 Lot No: PSR1H-05N

## GPC/SEC - Calibration Curve



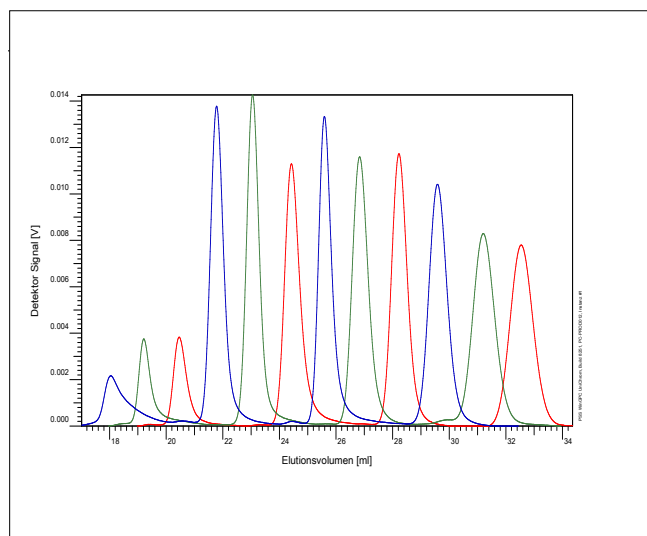
## GPC/SEC - Calibration Table

Elution volume [ml]	Mp [Da]	Polymer Lot No:
18,04	7520000	PS1025
19,21	2930000	PS23025N
20,46	1210000	PS1087N
21,78	579000	PS27083
23,05	277000	PS31059
24,42	127000	PS10065
25,59	67000	PS16021
26,83	34800	PS9029N
28,22	17800	PS21111
29,58	8400	PS18028
31,21	3420	PS8124
32,53	1620	PS12034

**Note:**

Mp = Molar mass at the peak maximum

## GPC/SEC - Polymer Overlay

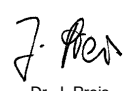


## GPC/SEC - Calibration Conditions

Solvent: Tetrahydrofuran  
 Flow rate: 0,50 ml/min  
 Precolumn [8 x 50 mm]: PSS SDV 10µm  
 Columns [8 x 300 mm]: PSS SDV 10µm 10e3Å / 10e5Å / 10e7Å  
 Temperature: 23 °C  
 Inject volume: 20 µl  
 Internal standard: Toluene at 38,01 ml  
 Data Acquisition Software: PSS WinGPC  
 Calibration by: J.Preis  
 Fit quality: PSS Poly 5  
 R: 0,999957

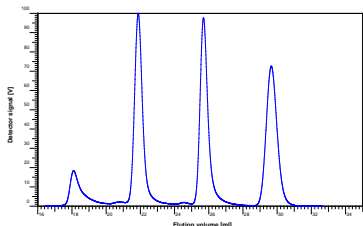
Storage: Store the tightly recapped polymer standards in a dry, dark, cool area; e.g. a refrigerator (4 °C).  
 Date of expiry: 2032/12/31 (See also product label.)  
 Date of approval: 2023/03/06

Manufacture and control according to PSS method of analysis

  
 Dr. J. Preis  
 production manager

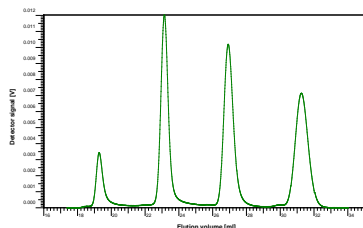
Product: ReadyCal-Kit Poly(styrene) high  
 Part No: PSS-PSKITR1H  
 Lot No: PSR1H-05N

**Colour code: Cap – blue**



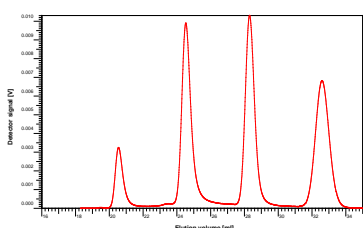
Mp [Da]	Mw [Da]	Mn [Da]	Mw (LS) <sup>a</sup> / Mn (NMR) <sup>b</sup> [Da]	Mass [mg]	Lot No:
7 520 000	6 590 000	5 330 000	6 400 000 <sup>a</sup>	0.45*	PS1025
579 000	564 000	545 000	541 000 <sup>a</sup>	1.50	PS27083
67 000	64 000	60 000	64 300 <sup>a</sup>	1.50	PS16021
8 400	8 100	7 800	8 380 <sup>a</sup>	1.50	PS18028

**Colour code: Cap – green**



Mp [Da]	Mw [Da]	Mn [Da]	Mw (LS) <sup>a</sup> / Mn (NMR) <sup>b</sup> [Da]	Mass [mg]	Lot No:
2 930 000	2 740 000	2 390 000	2 730 000 <sup>a</sup>	0.45*	PS23025N
277 000	271 000	265 000	281 000 <sup>a</sup>	1.50	PS31059
34 800	34 000	32 700	33 300 <sup>a</sup>	1.50	PS9029N
3 420	3 470	3 280	3 490 <sup>a</sup>	1.50	PS8124

**Colour code: Cap – red**



Mp [Da]	Mw [Da]	Mn [Da]	Mw (LS) <sup>a</sup> / Mn (NMR) <sup>b</sup> [Da]	Mass [mg]	Lot No:
1 210 000	1 170 000	1 070 000	1 120 000 <sup>a</sup>	0.45*	PS1087N
127 000	120 000	115 000	130 000 <sup>a</sup>	1.50	PS10065
17 800	17 500	17 000	16 500 <sup>a</sup>	1.50	PS211111
1 620	1 560	1 500	1 560 <sup>b</sup>	1.50	PS12034

For exact determination of sample concentration, we recommend to add the solvent volume precisely.

Level of eluent	full	half	quarter
Volume of eluent	1.50 ml	0.75 ml	0.375 ml
Concentration	1.0 g/l resp. 0.3 g/l*	2.0 g/l resp. 0.6 g/l*	4.0 g/l resp. 1.2 g/l*

**Note:** Please use suitable caps and septa for high-temperature applications.