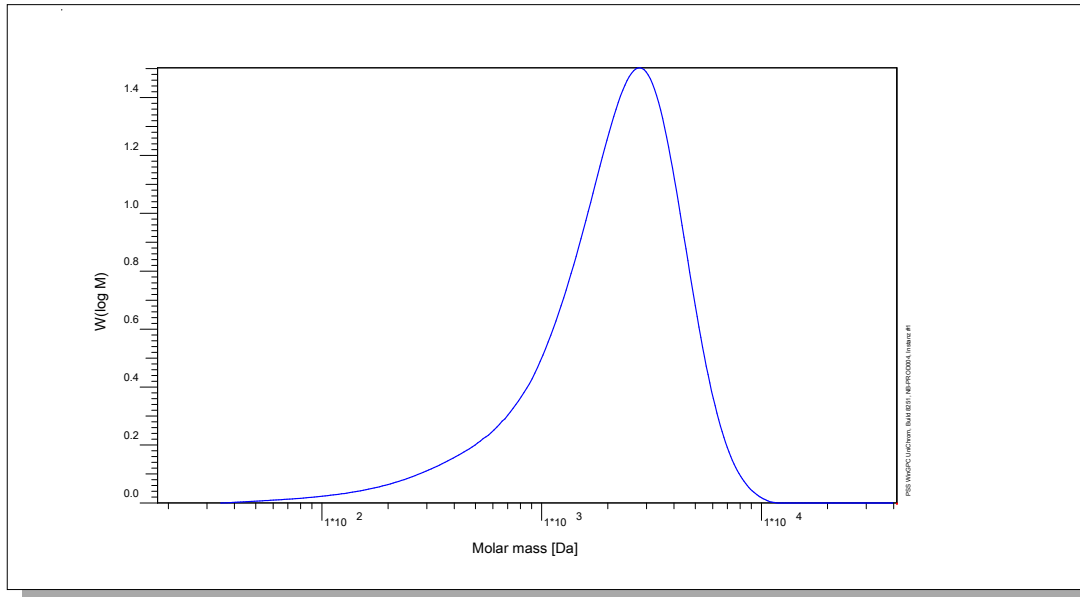


# Certificate of Analysis

Polymer type: Poly(alpha-methylstyrene sulfonate) sodium salt  
 Part No: PSS-amss2.5k  
 Lot No: amss4076

## Molar Mass Distribution



## GPC/SEC - Conditions

|                                       |  |               |         |
|---------------------------------------|--|---------------|---------|
| Sample concentration                  | 1,00 g/l   | Inject volume | 20 µl   |
| Flow rate                             | 1,00 ml/min  | Temperature   | 23 °C   |
| Solvent                               | H <sub>2</sub> O, 0.07M Na <sub>2</sub> HPO <sub>4</sub> |               |         |
| Precolumn [8 x 50 mm]                 | PSS MCX 10µm   |               |         |
| Columns [analytical, each 8 x 300 mm] | PSS MCX 10µm 10e3Å / 10e5Å / 10e7Å                       |               |         |
| Data Acquisition Software             | PSS WinGPC   | Operator      | J.Preis |

## GPC/SEC - Results

| Detector               | Mw [Da] | Mn [Da] | Mp [Da] | PDI [Mw/Mn] |
|------------------------|---------|---------|---------|-------------|
| PSS SECcurity UV 254nm | 2660    | -       | 2800    | <1.50       |

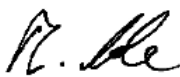
Parent Poly(alpha-methylstyrene) Molecular Weight: Mw [Da] = 1500 Mn [Da] = 1160 Mp [Da] = 1580 PDI = 1.29

### Note:

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

The molecular weights are calculated with the factor 1.77 ( amss sodium salt /ams x 0.95 ). Degree of sulfonation > 90%.  
 (For calculation: Assumption: Degree of sulfonation is 95%).

**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

