

# Product Profile

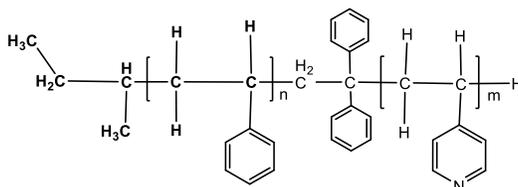
## Identification

**Product Name:** Poly(styrene-b-4-vinyl-pyridine)

**Product Lot Number:** P18707-R-S4VP

**CAS #:** 26222-40-2

**Product Chemical Architecture:**



**Composition:**

Composition (S-b-4VP)	48,000-b-102,000
4VP mole%	68.1
Mn (g/mole)	149,000
Mw (g/mole)	169,000
Mw/Mn	1.13
dn/dc (mL/g) in DMF at 35 °C	0.157

## Method of Synthesis

The polymer is synthesized by anionic polymerization process.

**Solubility in different solvents:**

Solvent	Depends on composition	DMF	✓
THF	Depends on composition	DMF	✓
Alcohol	Depends on composition	CHCl <sub>3</sub>	✓
Toluene <sub>(hot)</sub>	X	Water	X

## Validation of Architecture

### A. Gel Permeation Chromatography (GPC), SEC Profile:

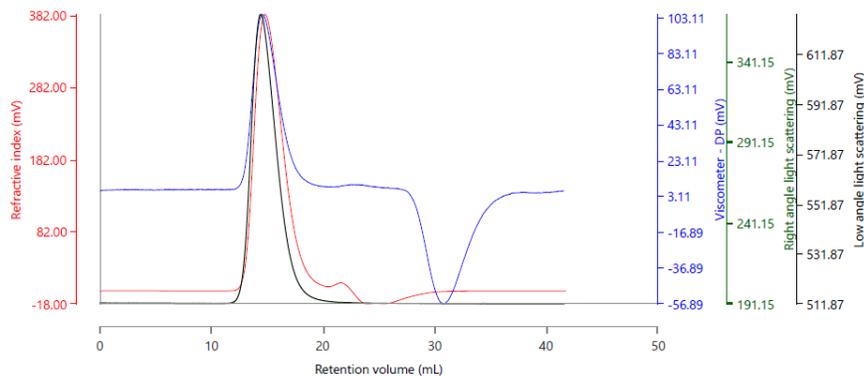
Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (PSS, SDV, 8x300 mm). DMF with 0.023M LiBr was the eluent. The flow rate was 0.7 ml/min.

Polymer Source

Malvern Analytical



Raw Data Chart



Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mz (g/mol)	Mw/Mn
P18707, Injection 1, Peak 1	14.81	149,404	169,456	175,640	195,745	1.134

**B. NMR ( $^1\text{H}$ NMR) of S4VP in  $\text{CDCl}_3$ , 500 MHz**

