

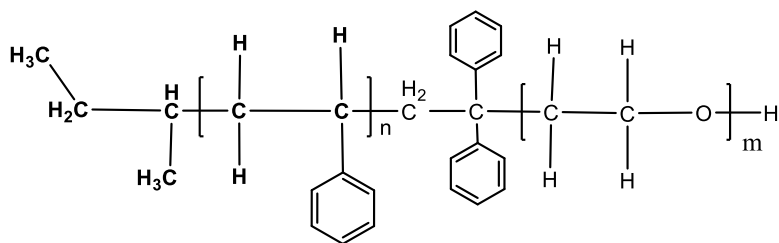
## Product Profile

### Identification

**Product Name:** Poly(styrene-b-ethylene oxide)

**Product Lot Number:** P44827-SEO

**CAS #:** Not Available **Product Chemical Architecture:**



**Composition:**

| Composition (S-b-EO)         | 19,000-b-29,000 |
|------------------------------|-----------------|
| EO mole%                     | 60              |
| Mn (g/mole)                  | 48,000          |
| Mw (g/mole)                  | 48,000          |
| Mw/Mn                        | 1.00            |
| dn/dc (mL/g) in THF at 30 °C | 0.114           |

### Method of Synthesis

The polymer is synthesized by anionic polymerization process.

**Solubility in different solvents:**

|         |   |                   |   |
|---------|---|-------------------|---|
| THF     | √ | DMF               | √ |
| Alcohol | X | CHCl <sub>3</sub> | √ |
| Toluene | √ | Water             | X |

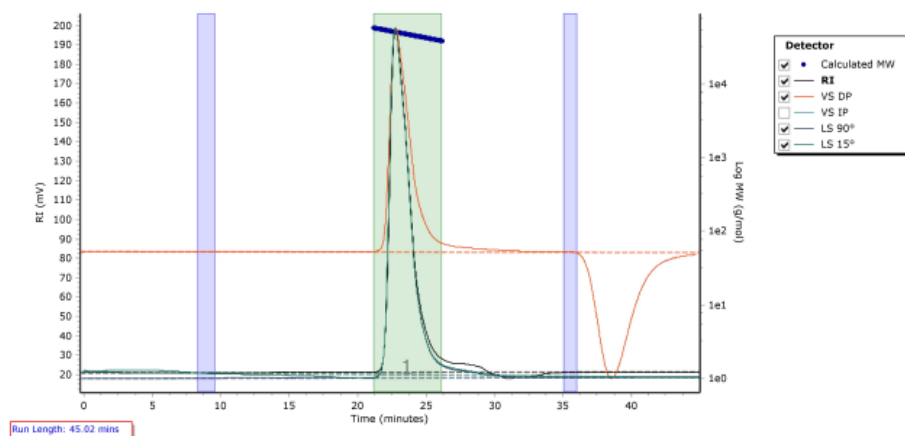
### Validation of Architecture

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

Molecular weights were determined by Agilent Technologie 1260 Infinity II GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LS 15°) and three columns (PLgel, 7.5x300 mm, 5µm-10µm, 10<sup>5</sup>-10<sup>6</sup>Å). THF (stabilized BHT) with 1%(v/v%) TEA was the eluent. The flow rate was 1.0 ml/min.

### Chromatogram Plot

**P44827**



| Molecular Weight Averages |            |            |            |            |              |            |       |
|---------------------------|------------|------------|------------|------------|--------------|------------|-------|
| Peak                      | Mp (g/mol) | Mn (g/mol) | Mw (g/mol) | Mz (g/mol) | Mz+1 (g/mol) | Mv (g/mol) | PD    |
| Peak 1                    | 50351      | 48105      | 48317      | 48518      | 48707        | 48432      | 1.004 |

### B. NMR ( $^1\text{H}$ NMR) of SEO

SMMA sample was dissolved in  $\text{CDCl}_3$ .  $^1\text{H}$  NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer.

