

# Product Profile

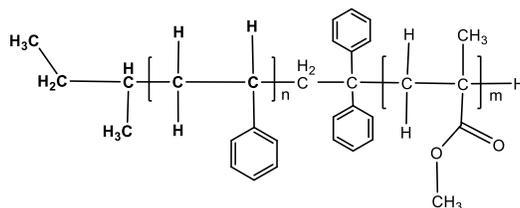
## Identification

**Product Name:** Poly(styrene-b-methylmethacrylate)

**Product Lot Number:** P3574-R-SMMA

**CAS #:** 25034-86-0

**Product Chemical Architecture:**



**Composition:**

<b>Composition (S-b-MMA)</b>	<b>31,000-b-7,000</b>
<b>MMA mole%</b>	<b>18.4</b>
<b>Tacticity (atac, iso, syn)</b>	<b>PMMA &gt; 78% syn</b>
<b>Mn (g/mole)</b>	<b>39,000</b>
<b>Mw (g/mole)</b>	<b>39,000</b>
<b>Mw/Mn</b>	<b>1.01</b>
<b>dn/dc (mL/g) in THF at 30 °C</b>	<b>0.168</b>

## Method of Synthesis

The polymer is synthesized by anionic polymerization process.

**Solubility in different solvents:**

THF	√	DMF	√
Alcohol	X	CHCl <sub>3</sub>	√
Toluene	Depends on composition	Water	X

## Validation of Architecture

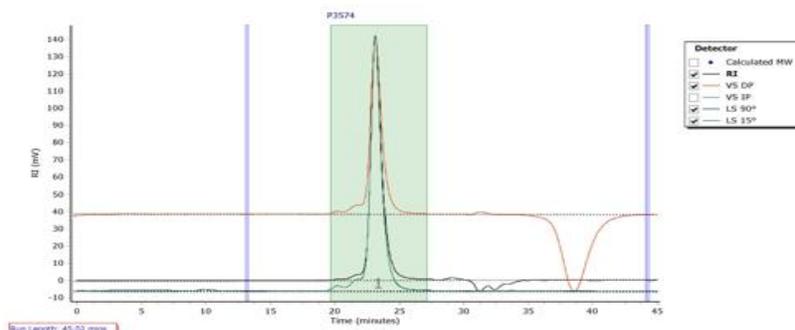
### A. Gel Permeation Chromatography (GPC), SEC Profile:

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.

Agilent GPC/SEC Software

P3574

Chromatogram Plot



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	39139	38501	39674	38844	39015	38830	1.005

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

