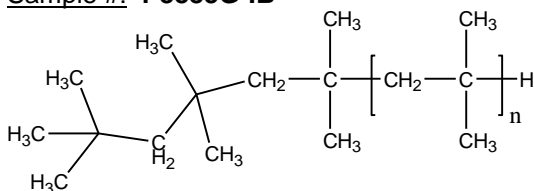


**Sample Name: Polyisobutylene**

**Sample #: P8883G-IB**

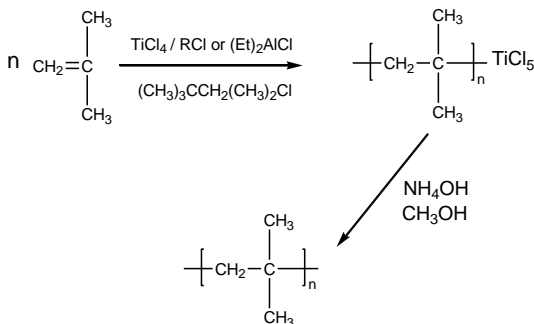


**Composition:**

| Mn x 10 <sup>3</sup> | PDI |
|----------------------|-----|
| 44.0                 | 1.6 |

**Synthesis Procedure:**

Polyisobutylene is synthesized by living cationic polymerization of isobutylene in hexane at -78 °C using a tin based catalyst and a 2,4,4-dimethyl pentene / HCl initiator. The reaction scheme is shown below:



**Purification:**

After polymerization the catalyst residues are removed by filtration and washing with acidic water after which the pH is returned to nominal values and finally the polymer is freeze dried.

**Characterization:**

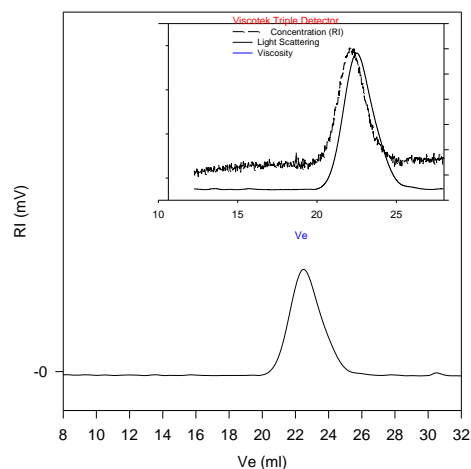
The molecular weight and polydispersity index (PDI) of polyisobutylene are obtained by size exclusion chromatography.

**Solubility:**

Polyisobutylene is soluble in THF, toluene, hexane, pentane and cyclohexane and precipitates from methanol and ethanol.

**SEC of Homopolymer:**

**P8883G-IB**



Size Exclusion Chromatography of polymer:

— M<sub>n</sub> = 44000, M<sub>w</sub> = 71000, M<sub>w</sub>/M<sub>n</sub> = 1.6  
Solution Viscosity in THF at 35 °C: 0.437 dl/g  
Rgw: 9.78m  
dn/dc in THF at 35 °C: 0.112 ml/g

**H NMR of the polymer:**

