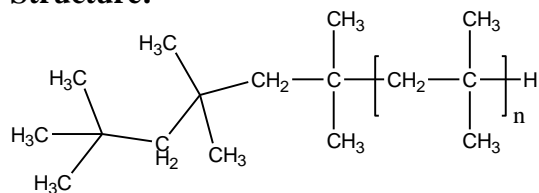


**Sample Name: Polyisobutylene**

**Sample #: P42405-Ib**

**Structure:**

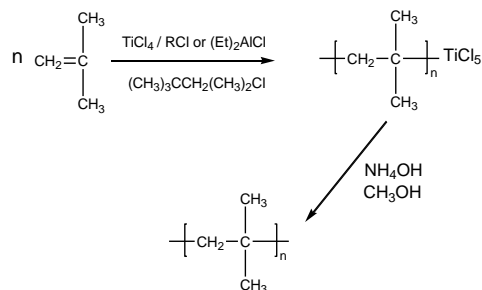


**Composition:**

Mn x 10 <sup>3</sup>	PDI
638.0	1.28

**Synthesis Procedure:**

Polyisobutylene is synthesized by living cationic polymerization of isobutylene in hexane at  $-78^{\circ}\text{C}$  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:**

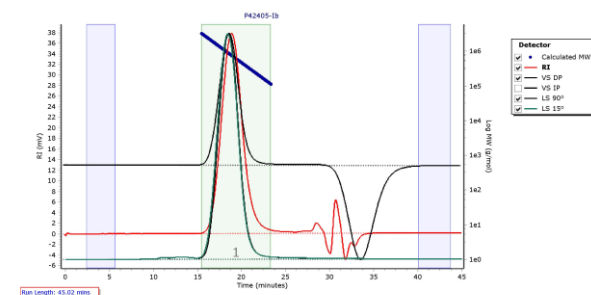
Polyisobutylene is soluble in THF, toluene, hexane, pentane, and cyclohexane. It precipitates from methanol and ethanol.

**SEC elugram of the Sample:**

Agilent GPC/SEC Software

P42405-Ib

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	769512	638309	821408	1014200	1217562	983844	1.287