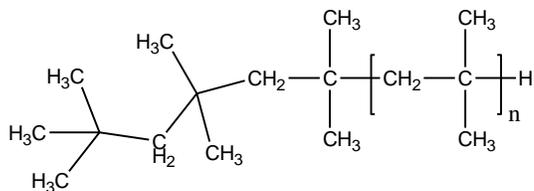


**Sample Name: Polyisobutylene**

**Sample #: P42428-1b**

**Structure:**

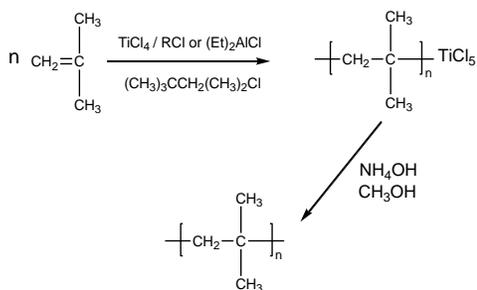


**Composition:**

|                      |     |
|----------------------|-----|
| Mn x 10 <sup>3</sup> | PDI |
| 351.0                | 1.4 |

**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:

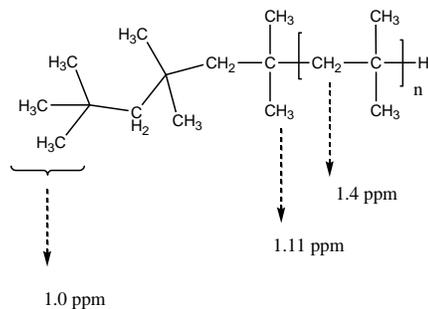


**Purification:**

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:**

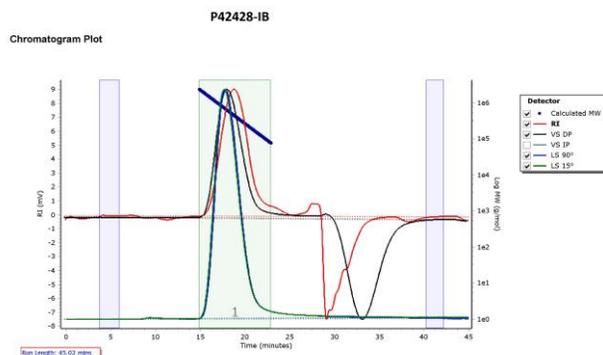
The molecular weight and polydispersity index (PDI) of polyisobutylene are obtained by size exclusion chromatography.



**Solubility:**

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

**SEC elugram of the Sample:**



| 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                    | 442574     | 351060     | 497517     | 660594     | 825616       | 635847     | 1.417 |