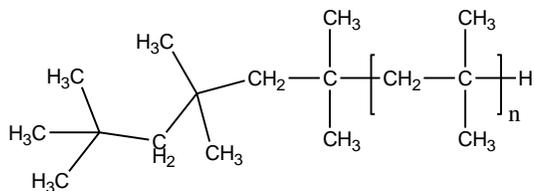


## Sample Name: Polyisobutylene

Sample #: P42420-Ib

### Structure:

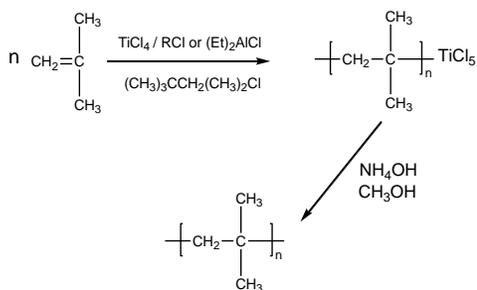


### Composition:

Mn x 10 <sup>3</sup>	PDI
727.0	1.17

### Synthesis Procedure:

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

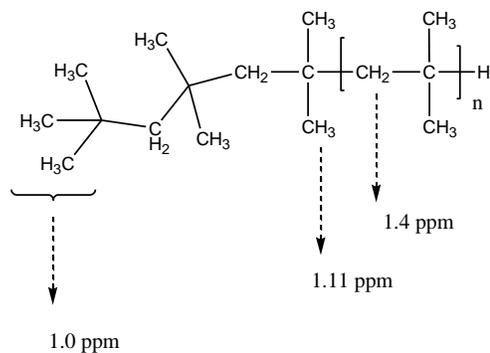


### Purification:

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:

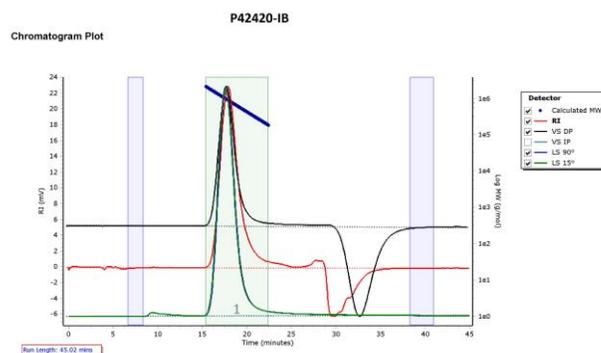
The molecular weight and polydispersity index (PDI) of polyisobutylene are obtained by size exclusion chromatography.



### Solubility:

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

### SEC elugram of the Sample:



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	908180	727278	856829	964885	1058602	951398	1.178