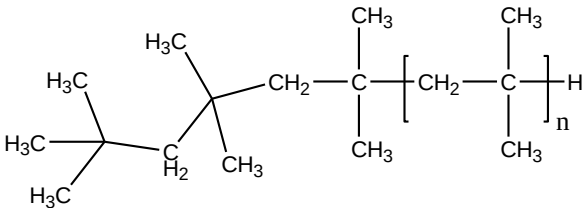
Sample Name: **Polyisobutylene**

Sample #: **P42419-Ib**

Structure:

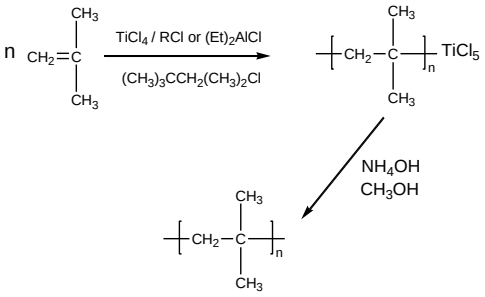


Composition:

Mn x 10^3	PDI
546.0	1.3

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:

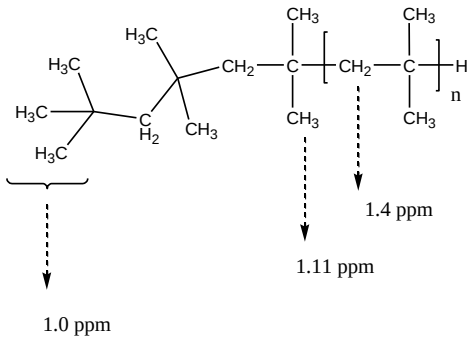


Purification:

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:

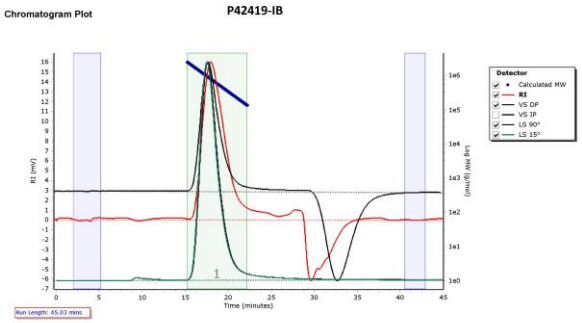
The molecular weight and polydispersity index (PDI) of polyisobutylene are obtained by size exclusion chromatography.



Solubility:

Polyisoprene 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	802761	546351	718293	878201	1019034	859267	1.315