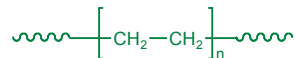


Sample Name: Polyethylene  
(obtained from the hydrogenation of Polybutadiene rich in 1,4 microstructure)

Sample #: PE-300K

**Structure:**

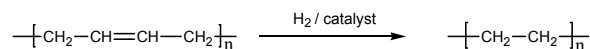
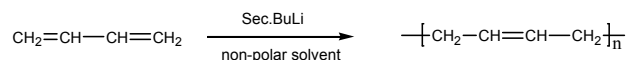


**Composition:**

$M_n \times 10^3$	PDI
295.5	1.8

**Synthesis Procedure:**

Polyethylene is made from the hydrogenation of 1,4-polybutadiene. 1,4-polybutadiene is synthesized by living anionic polymerization of butadiene in non-polar solvent.



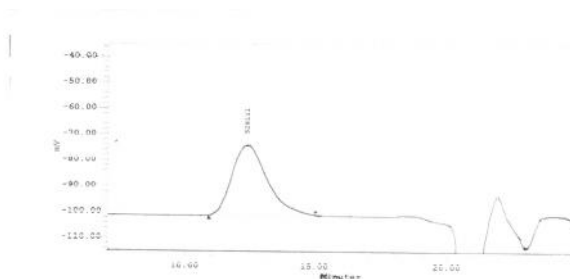
**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography. The hydrogenation of polybutadiene is confirmed by FT-IR with disappearance of the alkene double bond.

**Solubility:**

Polyethylene is soluble in hot toluene and hot xylene. The polymer is insoluble in hexane, methanol and ethers.

**SEC of the Polymer:**



Polyethylene,  $M_n=295500$ ,  $M_w=533300$ ,  $PI=1.8$