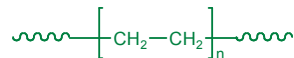


Sample Name: Polyethylene

Sample #: P3262-E

Structure:

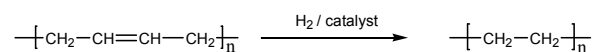
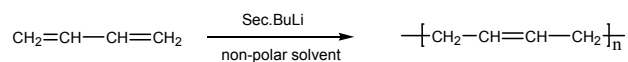


Composition:

Mn x 10 ³	PDI
0.5	1.16

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.



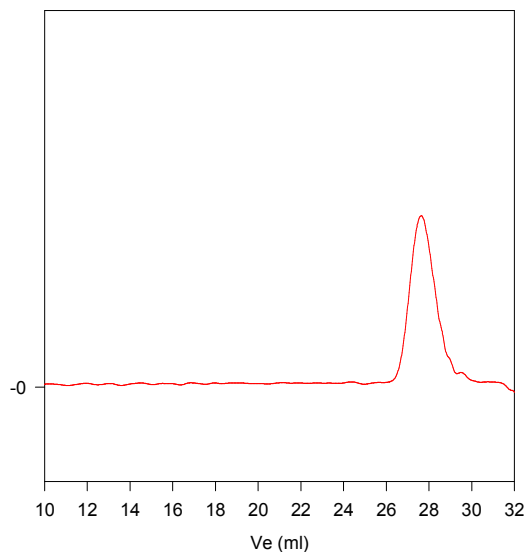
Characterization:

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 Sample # P3262-E:



Size exclusion chromatography of polybutadiene with respect to polybutadiene standards:

M_n=500, M_w=580, M_w/M_n=1.16