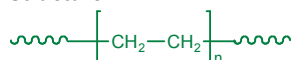


**Sample Name:**  
**Hydroxy terminated Polyethylene**

**Sample #:** P4604-EOH

**Structure:**

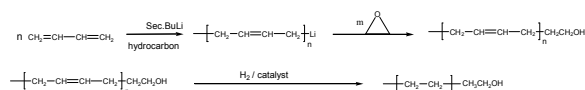


**Composition:**

Mn x 10 <sup>3</sup>	PDI
5.0	1.05

**Synthesis Procedure:**

Hydroxy end functionalized Polyethylene is made from the hydrogenation of OH terminated Poly 1,4-polybutadiene. Poly 1,4-polybutadiene is synthesized by living anionic polymerization of butadiene in non-polar solvent followed by termination of reaction with ethylene oxide.



**Characterization:**

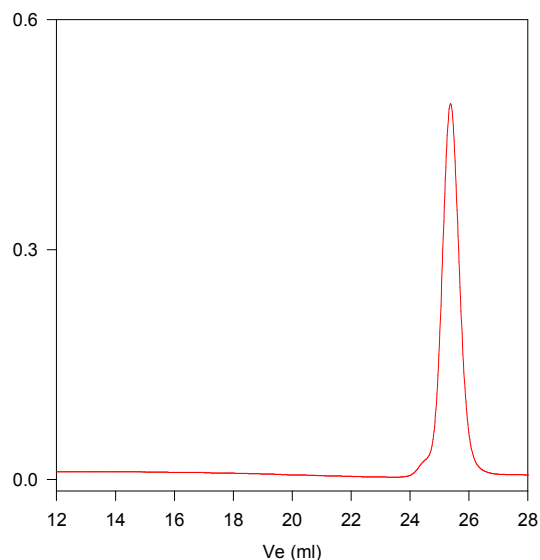
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography. The hydrogenation of polybutadiene is confirmed by FT-IR with disappearance of the alkene double bond.

**Solubility:**

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

**SEC of Sample #**

**P4604-BdOH(1,4 rich addition)**  
**Precursor for Hydroxy terminated Poly ethylene**



Size exclusion chromatography of polybutadiene:

M<sub>w</sub>=4800, M<sub>n</sub>=5000, M<sub>w</sub>/M<sub>n</sub>=1.05  
 Solution viscosity in THF at 30 oC: 0.245dl/g  
 Radius of Gyration : 3.2 nm  
 Data obtained from Viscotek triple detectors  
 After Hydrogenation: Mn: 5000 Mw/MN 1.05