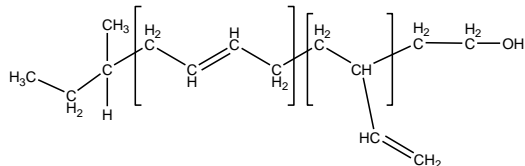


**Sample Name: Hydroxy Terminated Polybutadiene, 1, 4-microstructure**

**Sample #: P19451-BdOH**

**Structure:**

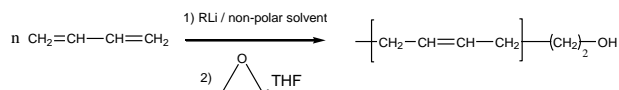


**Composition:**

Mn x 10 <sup>3</sup>	PDI
89.0	1.07
1,4 microstructure	65%

**Synthesis Procedure:**

1, 4-addition hydroxy terminated polybutadiene was prepared by anionic living polymerization of butadiene in non-polar solvent followed by termination with ethylene oxide. The scheme of the reaction is illustrated below:



**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

**Functionality:** functionality of the obtained polymer was determined by reacting polymer in dried non quantity of acetic anhydride in the presence of pyridine as a catalyst and the liberated COOH was titrated by acid-base titration.

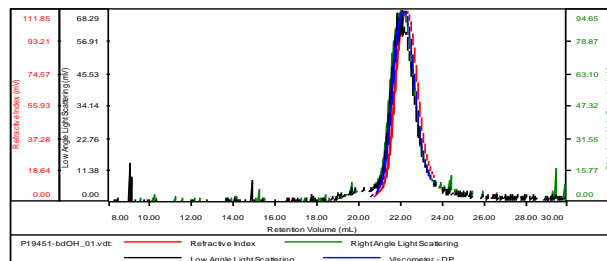
**Solubility:**

Hydroxy terminated polybutadiene is soluble in DMF, THF, toluene, hexane, cyclohexane and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water.

**SEC elugram of Sample:**

**Sample ID:P19451-BdOH**

Concentration (mg/mL)	1.2446
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-June30-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19451-bdOH_01.vdt	88,862	95,242	88,519	1.072	5.7308