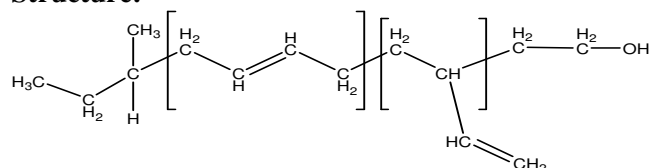


Sample Name: Hydroxy Terminated Polybutadiene,
1, 4-microstructure

Sample #: P40100-BdOH

Structure:

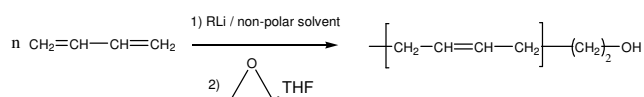


Composition:

Mn x 10 ³	PDI
13.5	1.02
1,4 microstructure	92%

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.

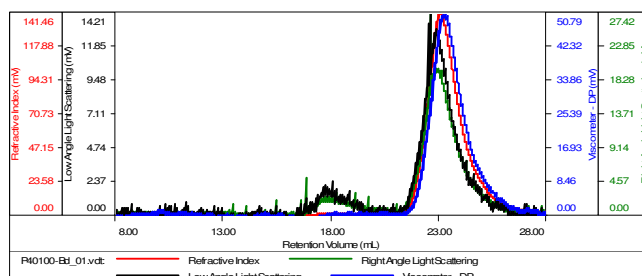
Solubility:

Hydroxy terminated polybutadiene is soluble in DMF, THF, toluene, hexane, cyclohexane and CHCl₃. It precipitates from methanol, ethanol, water.

SEC elugram of the polymer:

Sample ID: P40100-BdOH

Concentration (mg/mL)	7.9667
Sample dn/dc (mL/g)	0.1270
Method File	PS80K-4Aug.st2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mh (Da)	Mw (Da)	Mw/Mh	IV (dL/g)	Mp (Da)
P40100-Bd_01.vdt	13,564	13,833	1.020	0.3409	13,333

¹H NMR spectrum of the polymer:

