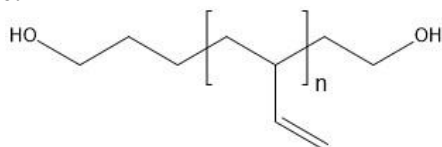


**Sample Name:** Poly(1,2-butadiene),  $\alpha,\omega$ -bis(hydroxy)-terminated

**Sample #:** P40655-Bd2OH

**Structure:**



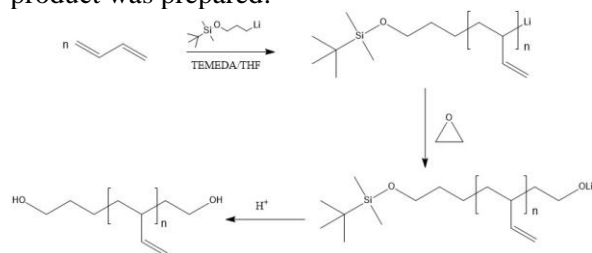
**Composition:**

Mn x 10 <sup>3</sup>	PDI
209.0	1.4

1,2 addition >85%

**Synthesis Procedure:**

1,2-rich microstructure addition dihydroxy terminated polybutadiene was prepared by anionic living polymerization of butadiene in polar solvent such as THF at 0°C followed by termination with ethylene oxide. **For this batch we have taken OH protected initiator.** The following reaction scheme shows how the product was prepared:



**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.

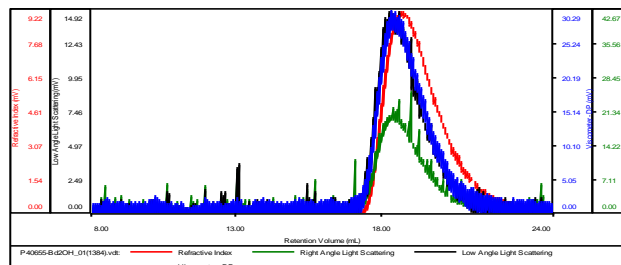
**Solubility:**

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

**SEC elugram of the Sample:**

P40655-Bd2OH

Concentration (mg/mL)	0.0977
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-June272017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40655-Bd2OH_01(1384)	209,327	298,672	1.427	13.9933	270,637