

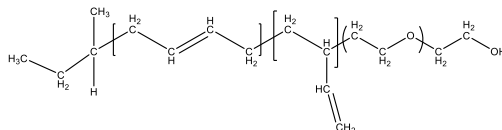
Product Profile

Identification

Product Name: Poly(butadiene-b-ethylene oxide)

Product Lot Number: P45107-BdEO

Product Chemical Architecture:

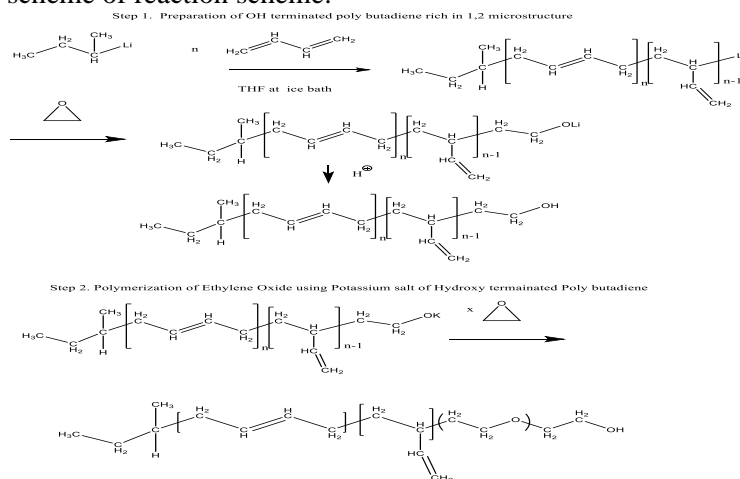


Composition:

Mn x 10 ³ Bd-b-EO	Mw/Mn (PDI)	% 1,2 addition Butadiene
0.8-b-1.7	1.10	>85.0
Dp of each block: Bd ₁₅ EO ₃₉ from ¹ H NMR		

Method of Synthesis: The polymer is synthesized by anionic polymerization using sec Butyllithium as initiator in 2 steps synthesis.

- Synthesis of Hydroxyl end terminated poly butadiene and
- Polymerization of ethylene oxide using potassium salt of poly butadiene, see the following scheme of reaction scheme:



Solubility in different solvents

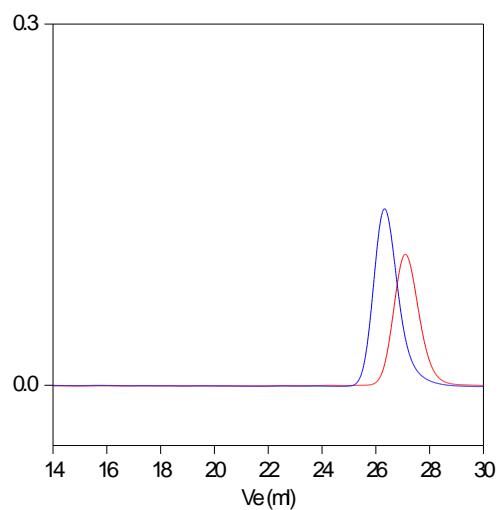
THF	√		
CHCl ₃	√	CHCl ₃	√
Toluene-Hot	√		

Purification of Polymer to remove naphthalene < 0.1% level.

Validation of Architecture

A. Gel Permeation Chromatography (GPC), SEC- Profile for PBd-EO:

~~P45107-BdEO~~



Size Exclusion Chromatogram of Poly(butadiene-b-ethylene oxide)

— Polybutadiene: $M_i=800$, $M_w=900$, $M_w/M_i=1.12$

— PBd-b-PEO M_i , PBd(800)-PEO(1700), $M_w/M_i=1.10$

The M_n of PEO is calculated from NMR results,

B. NMR (HNMR) of Poly butadiene-b-Ethylene Oxide:

PBdOH

