

Product Profile

Identification

Product Name: Poly(ethylene glycol) or Poly(ethylene oxide), α,ω -bis(hydroxy)-terminated

Synonym(s): PEO, PEG

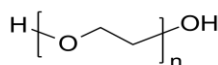
Synonym(s): PEO, PEG

Linear Formula: $\text{H}(\text{OCH}_2\text{CH}_2)_n\text{OH}$

CAS: 25322-68-3

Product Lot Number: P45823G-EG2OH

Product Chemical Architecture:



Composition:

Mn (g/mole)	36,000
MW (g/mole)	41,000
Mw/Mn	1.14
dn/dc (mL/g)	0.132 in water

Method of Synthesis

The polymer is prepared by anionic polymerization process using dipotassium salt of ethylene glycol.

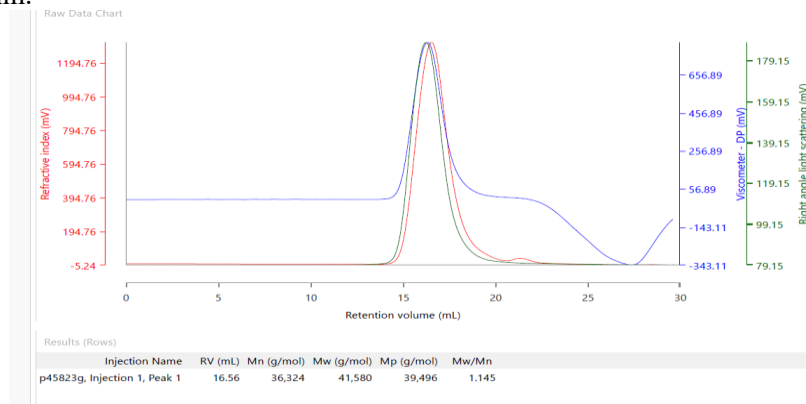
Solubility in different solvents

THF	√	DMF	√
Methanol	√	CHCl ₃	√
Toluene	X	DMSO	√

Validation of Architecture

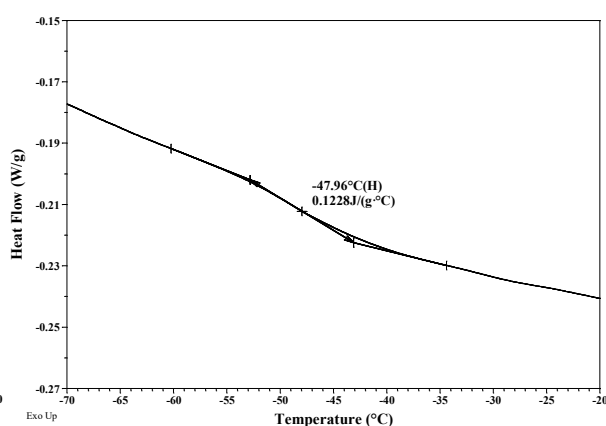
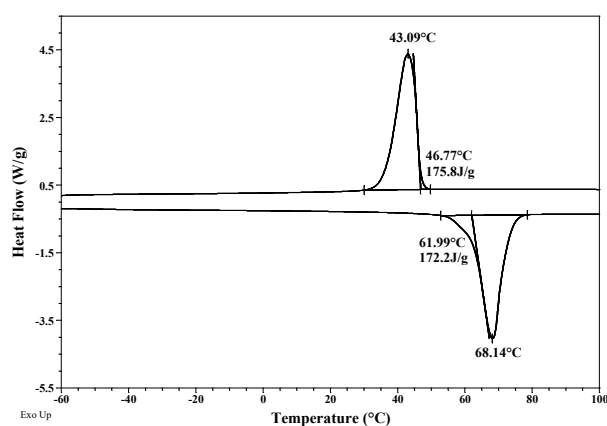
A. Gel Permeation Chromatography (GPC), SEC- Profile:

Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (A600M General Mixed 300×7.5 mm, Viscotek). 0.25 M NaNO₃ + 0.01M NaH₂PO₄ (PH=7) in water was the eluent. The flow rate was 1.0 ml/min.



B. Thermal analysis results:

Sample	T _m (°C)	T _c (°C)	T _g (°C)
Typical PEO sample (Mn below 50k Da)	68	43	-48



C. NMR (HNMR) OF PEO in DMSO, general

