

Product Profile

Identification

Product Name: POLY(ETHYLENE GLYCOL) OR POLY(ETHYLENE OXIDE), A, Ω -BIS(HYDROXY)-TERMINATED

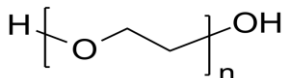
Synonym(s): PEO, PEG

Linear Formula: H(OCH₂CH₂)_nOH

CAS: 25322-68-3

Product Lot Number: P4223C-EG2OH (PEO)

Product Chemical Architecture:



Composition:

Mn (g/mole)	160,000
MW (g/mole)	182,000
Mw/Mn	1.13
dn/dc (mL/g)	0.132 in water

Method of Synthesis

The polymer is prepared by anionic polymerization process.

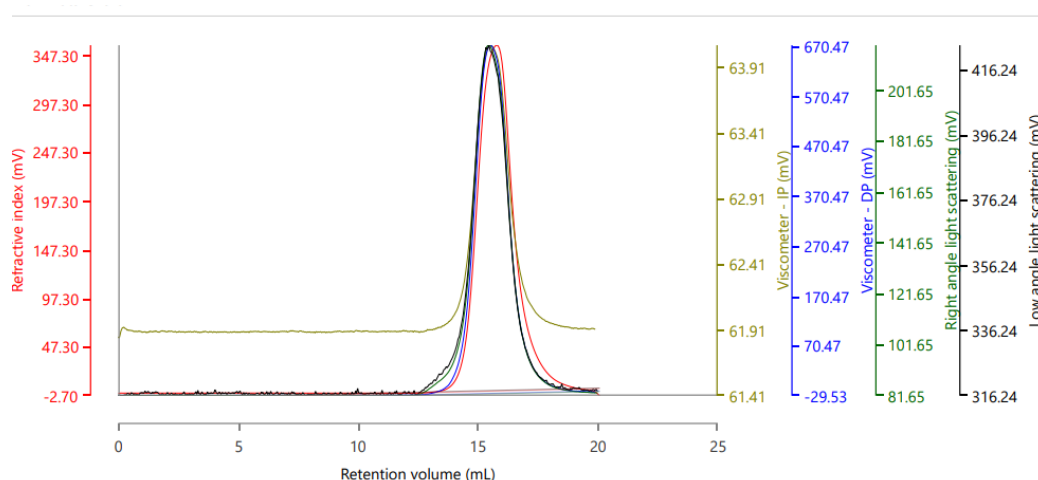
Solubility in different solvents

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.

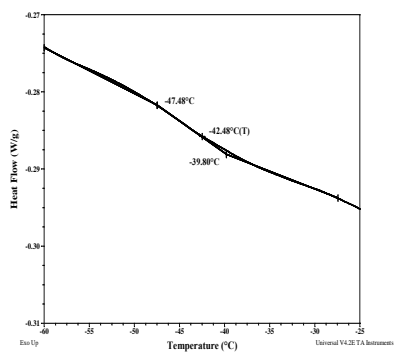
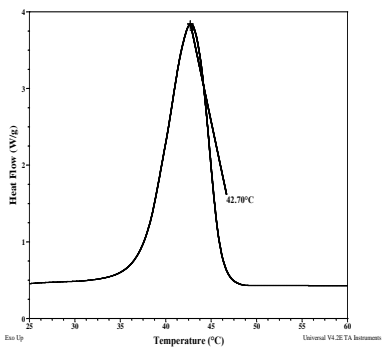
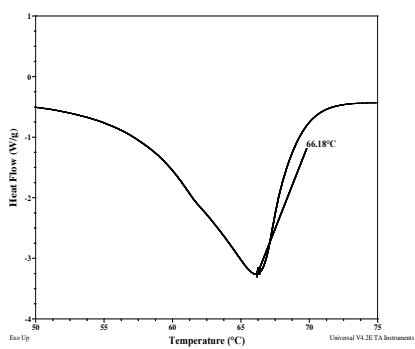


Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mz (g/mol)	Mw/Mn
P4223c, Injection 1, Peak 1	15.78	159,978	181,860	165,932	274,284	1.137

B. Thermal analysis results:

Sample	T _m (°C)	T _c (°C)	T _g (°C)
Typical PEO sample (Mn over 50k Da)	66	43	-43



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

