



Polymer Source,™ Inc.

Product Profile

Identification

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

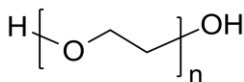
Synonym(s): PEO, PEG

Linear Formula: H(OCH₂CH₂)_nOH

CAS: 25322-68-3

Product Lot Number: P43979-EG2OH (PEO)

Product Chemical Architecture:



Composition:

Mn (g/mole)	19,100
MW (g/mole)	19,300
Mw/Mn	1.01
dn/dc (mL/g)	0.132 in water

Method of Synthesis

The polymer is prepared by living 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:

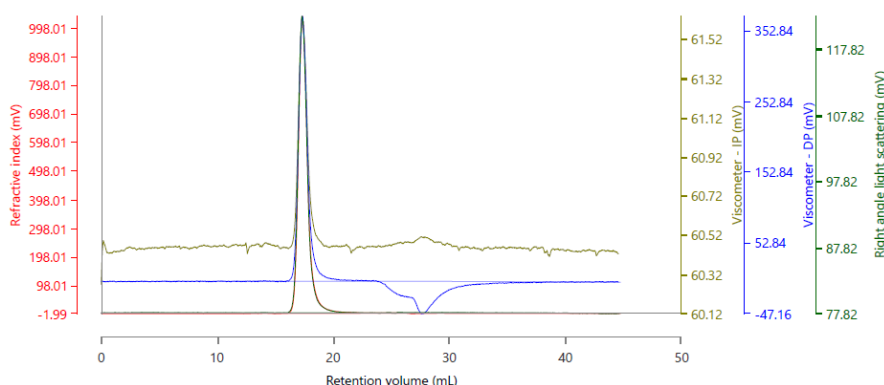
Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (A600M General Mixed 300×7.5 mm, Viscotek Deionized water (Filtrated on 0.22μm Nylon membrane) was the eluent. The flow rate was 1.0 ml/min.

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Malvern Panalytical



Raw Data Chart



Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mz (g/mol)	Mw/Mn
20k, Injection 1, Peak 1	17.41	19,092	19,309	19,204	19,499	1.011

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Quebec H9P 2X8 Canada

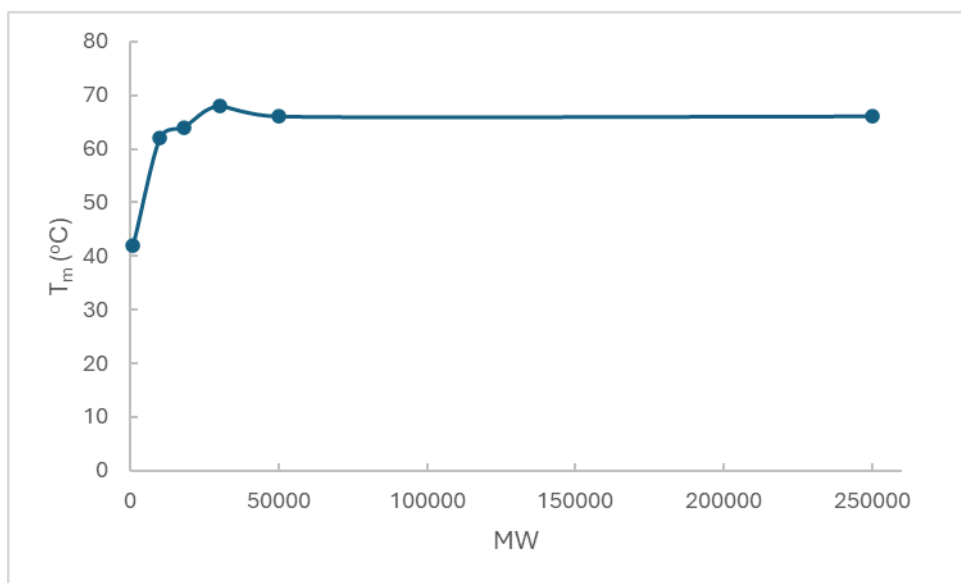
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B. Thermal analysis results:

Dependence of glass transition temperature (T_g) of PEO from its molecular weight:



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

