



Polymer Source,™ Inc.

## Product Profile

### Identification

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

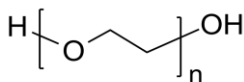
**Synonym(s):** PEO, PEG

**Linear Formula:** H(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OH

CAS: 25322-68-3

**Product Lot Number:** P43978-EG2OH (PEO)

**Product Chemical Architecture:**



**Composition:**

<b>Mn (g/mole)</b>	<b>30,000</b>
<b>MW (g/mole)</b>	<b>30,200</b>
<b>Mw/Mn</b>	<b>1.01</b>
<b>dn/dc (mL/g)</b>	<b>0.132 in water</b>

### Method of Synthesis

The polymer is prepared by living anionic polymerization process.

### Solubility in different solvents

THF	√	DMF	√
Methanol	√	CHCl <sub>3</sub>	√
Toluene	X	DMSO	√

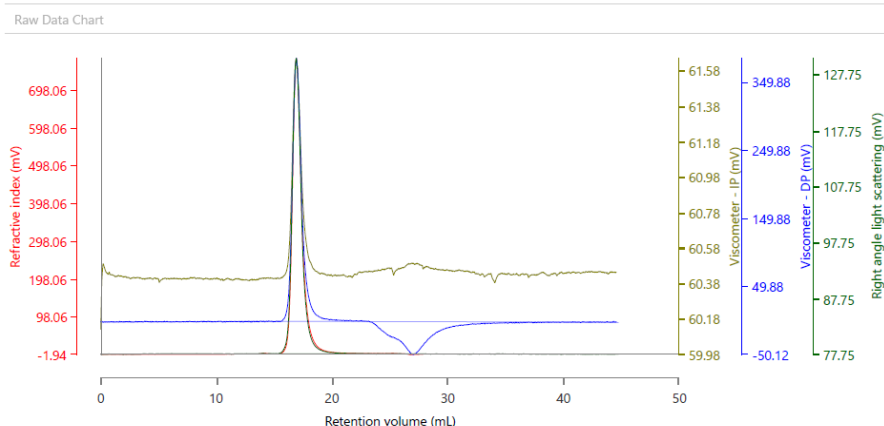
### Validation of Architecture

#### 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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Results (Rows)

Injection Name	RV (mL)	Mn (g/mol)	Mw (g/mol)	Mp (g/mol)	Mz (g/mol)	Mw/Mn
30k, Injection 1, Peak 1	16.98	29,890	30,202	30,350	30,534	1.01

124 avenue Avro, Dorval (Montreal)

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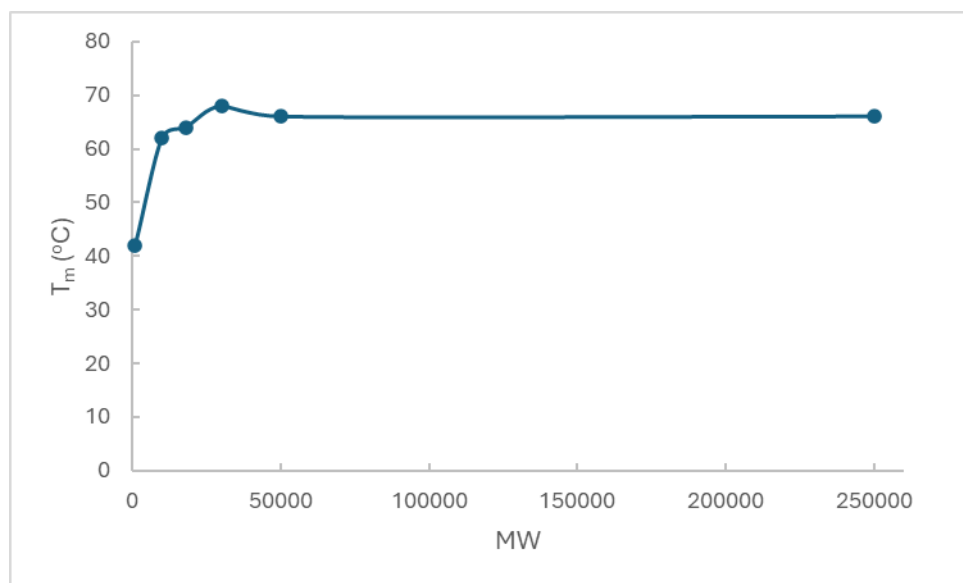
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[support@polymersource.com](mailto:support@polymersource.com)

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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**

