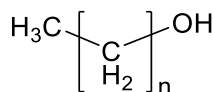


**Product Name:**  
**Poly(methylene),  $\omega$ -hydroxy-terminated**

**Synonym:**  
**Linear Polyethylene, ( $\alpha$ -methyl,  $\omega$ -hydroxy)-terminated**

**Product #:** P42249A-MOH

**Structure:**



**Composition:**

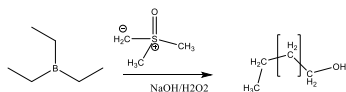
|                           |           |
|---------------------------|-----------|
| $M_n \times 10^3$ (g/mol) | $M_w/M_n$ |
| 4.0                       | 1.2       |

**Melting point:**

|            |           |
|------------|-----------|
| $T_m$ , °C | 87°, 116° |
|------------|-----------|

**Synthesis:**

Scheme of the reaction is presented below:



**Characterization:**

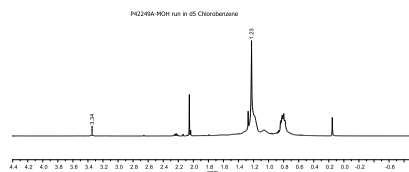
The purity of product was verified by proton NMR analysis performed at 80°C using chlorobenzene- $d_5$  as a solvent. The molecular weight and polydispersity index ( $M_w/M_n$ ) of the product were obtained by size exclusion chromatography (SEC) in toluene at 60°C.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The melting point ( $T_m$ ) of the product was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

**Solubility:**

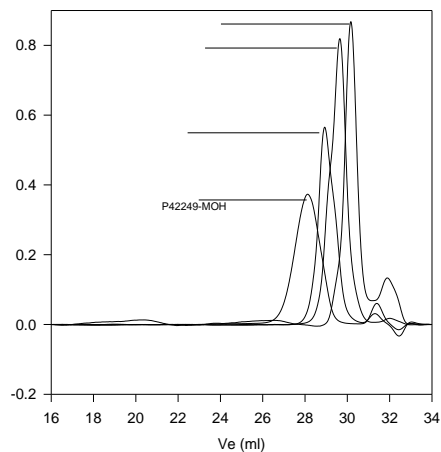
The product is soluble in hot toluene, hot xylene, and hot chlorobenzene. It is insoluble in hexanes, methanol, ethers, and other common solvents.

**$^1\text{H}$  NMR (500 MHz, Chlorobenzene- $d_5$ , 80°C):**



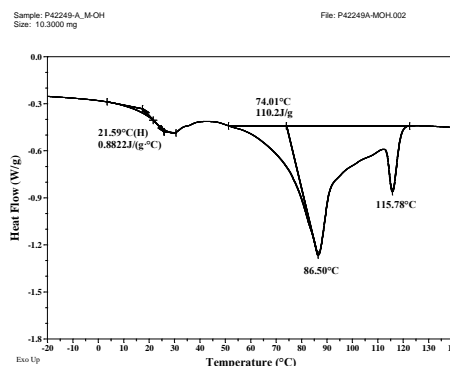
**SEC of the product (Toluene, 60°C):**

PolyMethylene polymers OH terminated



Size Exclusion Chromatography PM-OH terminated

**DSC of the product (2<sup>nd</sup> heating scan, 10°C/min):**



**Graph of dependence of melting point ( $T_m$ ) of higher linear alcohols vs. their molecular weight:**

