

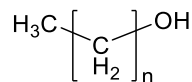
Product Name:

Poly(methylene), ω -hydroxy-terminated

Synonym: **Linear Polyethylene, (α -methyl, ω -hydroxy)-terminated**

Product # **P60204E-MOH**

Structure:



Composition:

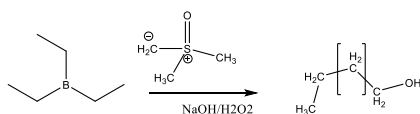
$M_n \times 10^3$ (g/mol)	M_w/M_n
5.2	1.12

Melting point:

T_m , °C	78°, 104°
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Synthesis:

Scheme of the reaction is presented below:



Characterization:

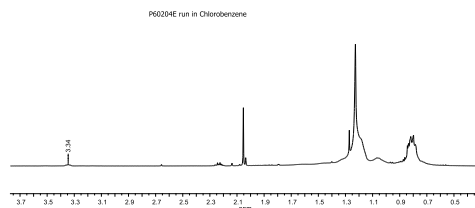
The purity of product was verified by proton NMR analysis performed at 80°C using chlorobenzene- d_5 as a solvent. The molecular weight and polydispersity index (M_w/M_n) of the product were obtained by size exclusion chromatography (SEC) in toluene at 60°C.

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:

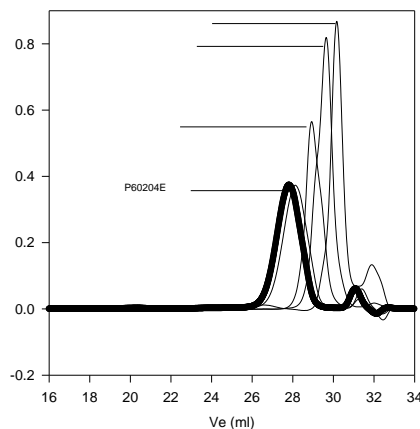
The product is soluble in hot toluene, hot xylene, and hot chlorobenzene. It is insoluble in hexanes, methanol, ethers, and other common solvents.

^1H NMR (500 MHz, Chlorobenzene- d_5 , 80°C):



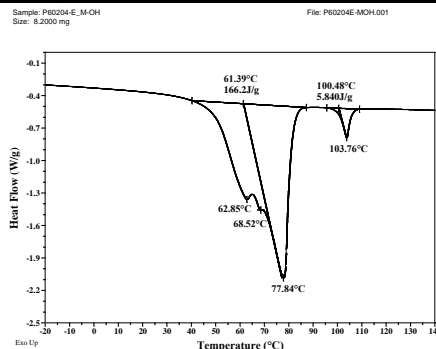
SEC profile of the product (Toluene, 60°C):

PolyMethylene polymers OH terminated



Size Exclusion Chromatography PM-OH terminated

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



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

