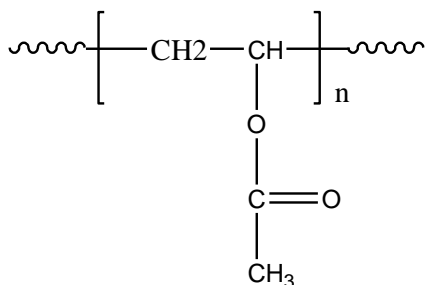


**Sample Name:** Poly(Vinyl Acetate)

**Sample #:** P8558-VAC

**Structure:**

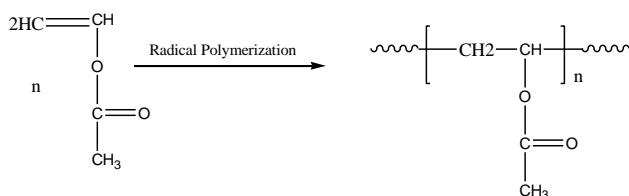


**Composition:**

Mn x 10 <sup>3</sup>	PDI
72.0	1.8
T <sub>g</sub> (°C)	35

**Synthesis Procedure:**

Poly vinyl acetate is obtained by free radical polymerization using iodo ethyl acetate as chain transfer reagent or by heterogeneous polymerization in water using potassium persulfate as initiator.. Polymerization was carried out in bulk. The polymerization scheme can be illustrated as follows:



**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co. <sup>1</sup>H NMR analysis was carried out on Varian instrument at 500MHz.

**Thermal analysis:**

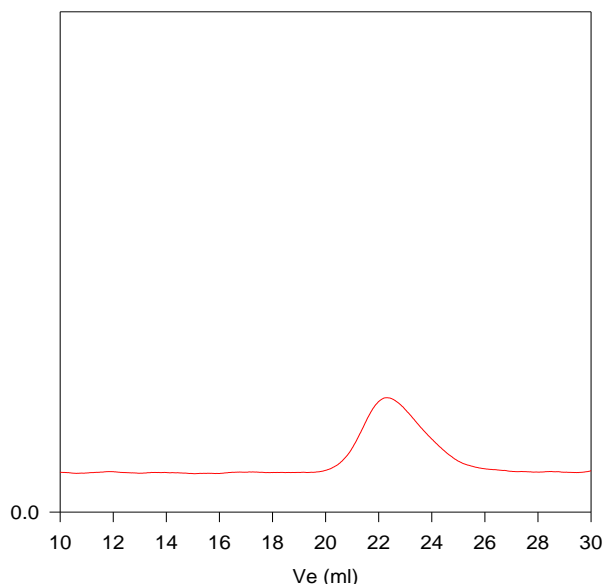
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**Solubility:**

Polymer is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes and ether.

**SEC of Homopolymer:**

**P8558-VAc**



Size exclusion chromatograph of Protonated Poly vinyl acetate

dn/dc in THF: 0.033 ml/g  
Mn= 72,000 Mw: 130,000 PI=1.8

**DSC thrmogram for the polymer:**

