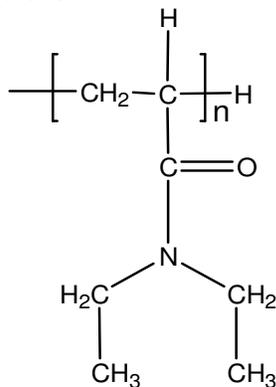


Sample Name:
Poly(N-N-diethylacrylamide)

Sample #: P9638-DEAMD

Synthesis by Free radical polymerization

Structure:



Composition:

$M_n \times 10^3$ w.r.t Polystyrene	PDI
750.0	1.4
$M_w \times 10^3$ 1050.0	1.4
Viscosity in Methanol at 25 °C: $[\eta] = 220 \text{ ml/g}$	$M_v: 1067,000$

Synthesis Procedure:

The polymer is synthesized by GTP polymerization.

Characterization:

The molecular weight and polydispersity index (PDI) of the polymer are obtained by size exclusion chromatography

Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solution Viscosity :

Intrinsic viscosity was determined in methanol at 25°C using Ubbelohde viscometer. The molecular weight is calculated based on the following equation in Methanol at 25°C :

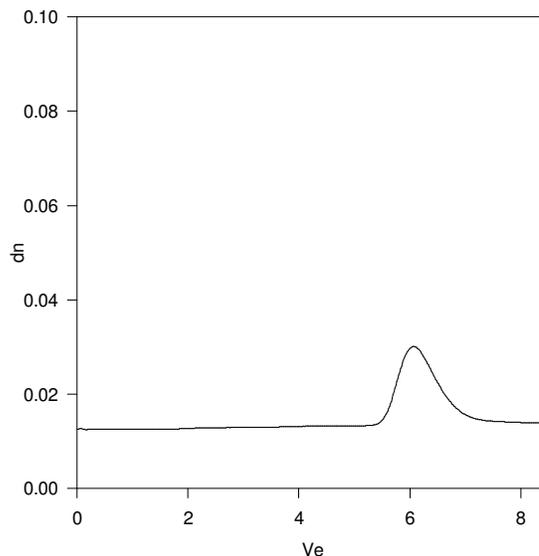
$$[\eta] = 0.0175 \times M_v^{0.68}$$

Solubility:

Polymer is soluble in methanol, ethanol and water, precipitated in hexane.

SEC of Homopolymer:

P9638-DEAMD



Size Exclusion Chromatography of Poly(N,N-diethyl acrylamide)

$M_n = 750,000$, $M_w = 1,050,000$, $PI = 1.4$