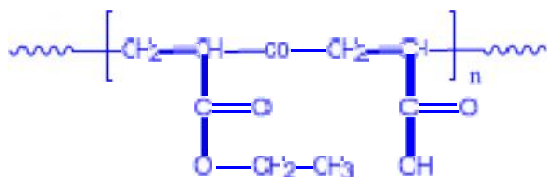


Sample Name:

Random Copolymer Poly(ethylacrylate-co-acrylic acid)

Sample #: P8259-EtAAran**Structure:****Composition:**

$M_n \times 10^3$	PDI
124.0 (Acrylic acid mol%: 20)	1.40
T_g for the random copolymer	-0.10°C

Synthesis Procedure:

Random Copolymer poly(ethylacrylate-co-acrylic acid) is prepared by control hydrolysis of poly tert butylacrylate and transesterification reaction in the presence of ethanol. The degree of acid content was determined by titration and from $^1\text{H-NMR}$ analysis.

Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy by comparing the peak area at 4.11 and 1.24 ppm vs, backbone protons..

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_g).

Solubility:

Random Copolymer is soluble in THF, toluene, chloroform and precipitated out from cold methanol and water.

Proton NMR of copolymer: