

Product Profile

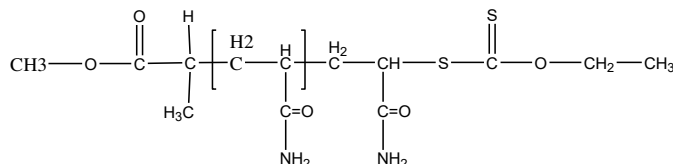
Identification

Product Name: Poly(Acrylamide)

Product Lot Number: P20224C-AMD

CAS #: 9003-05-8

Chemical Architecture:

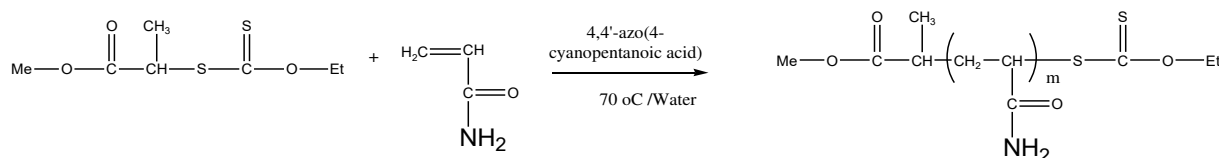


Composition:

Mn (g/mole)	3,400
Mw (g/mole)	4,000
Mw/Mn	1.13
Tg (°C)	184
dn/dc (mL/g) in THF at 30 °C	0.180

Method of Synthesis

Poly (acrylamide) is synthesized by RAFT polymerization of acrylamide using 4,4'-azo(4-cyanopentanoic acid) as initiator and xanthate as chain transfer agent. The reaction scheme is shown below:



Solubility in different solvents:

Water	√
THF	X
Alcohol	X

Validation of Architecture

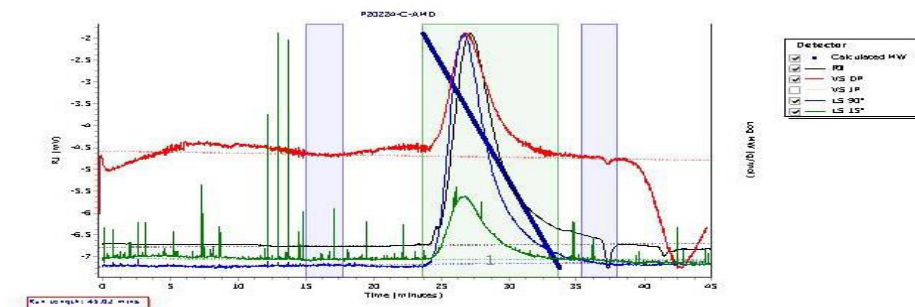
A. Gel Permeation Chromatography (GPC), SEC Profile:

Polyacrylamide was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI) using water containing 0.1M NaNO₃ and 0.01M NaH₂PO₄ and 4 vol% acetonitrile as eluent.



P20224-C-AMD

Chromatogram Plot

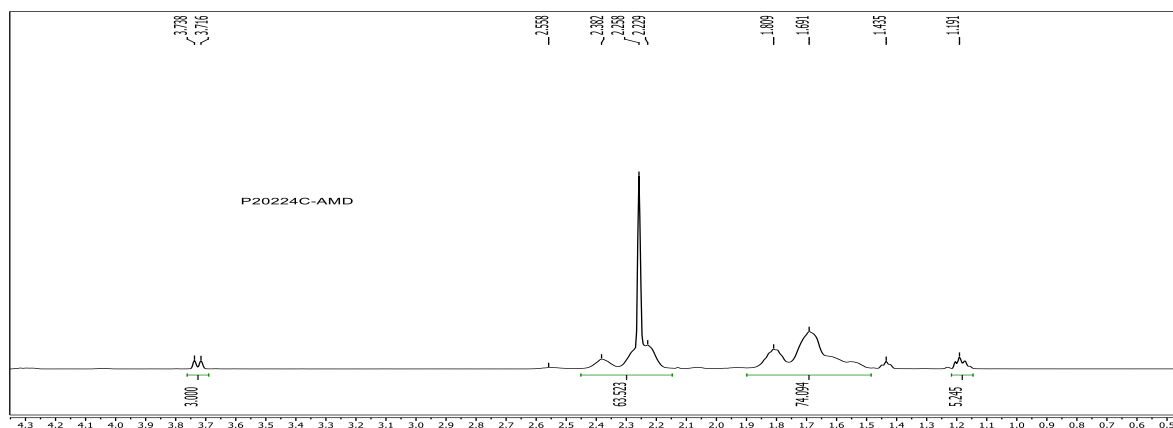


Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	4436	3432	3939	4361	4709	4326	1.148

B. NMR (^1H NMR) of CL

sample was dissolved in D_2O . ^1H NMR spectra was determined using a 500 MHz. Bruker Avance III spectrometer



C. DSC thermogram for the polymer:

