

## Product Profile

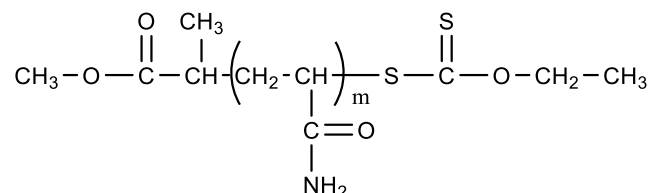
### Identification

**Product Name:** Poly(Acrylamide)

**Product Lot Number:** P16211A-AMD

**CAS #:** 9003-05-8

**Chemical Architecture:**

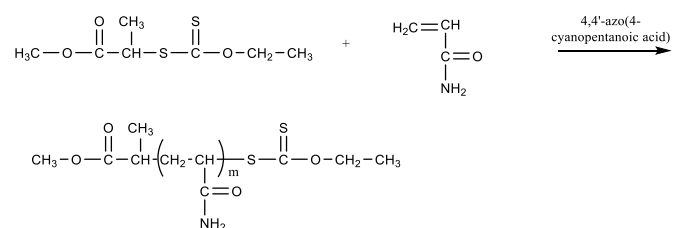


**Composition:**

|                                     |               |
|-------------------------------------|---------------|
| <b>Mn (g/mole)</b>                  | <b>17,000</b> |
| <b>Mw (g/mole)</b>                  | <b>33,000</b> |
| <b>Mw/Mn</b>                        | <b>1.90</b>   |
| <b>Tg (°C)</b>                      | <b>184</b>    |
| <b>dn/dc (mL/g) in THF at 30 °C</b> | <b>0.180</b>  |

### 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 in the mixture of water/isopropanol.



**Solubility in different solvents:**

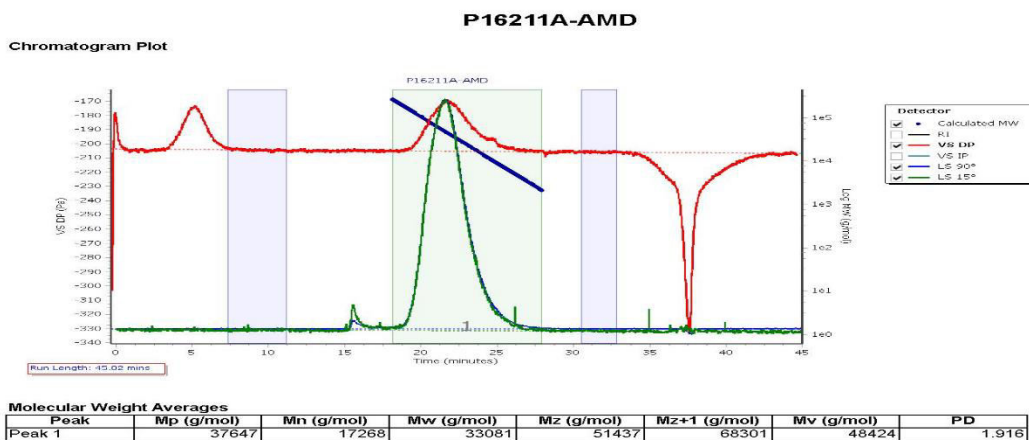
|         |   |
|---------|---|
| Water   | ✓ |
| THF     | X |
| Alcohol | X |

## Validation of Architecture

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

Polyacrylamide and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI) using water containing 0.1M NaNO<sub>3</sub> and 0.01M NaH<sub>2</sub>PO<sub>4</sub> and 4 vol% acetonitrile as eluent.

#### Agilent GPC/SEC Software



### B. DSC thermogram for the polymer:

