

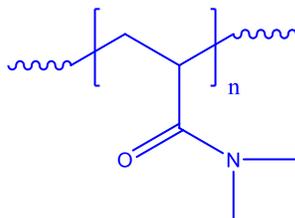
# Product Profile

## Identification

**Product Name:** Poly(N-N-dimethylacrylamide)

**Product Lot Number:** P40530F-R-DMA

**Product Chemical Architecture:**



**Composition:**

|                     |                       |
|---------------------|-----------------------|
| <b>Mn (g/mole)</b>  | <b>346,000</b>        |
| <b>MW (g/mole)</b>  | <b>447,000</b>        |
| <b>Mw/Mn</b>        | <b>1.29</b>           |
| <b>dn/dc (mL/g)</b> | <b>0.165 in water</b> |

## Method of Synthesis

The polymer is synthesized by free-radical polymerization initiated by AIBN. Obtained polymer fractionated using proper solvent/nonsolvent and the obtained polymer was purified by dissolving in acetone and precipitating in ether.

**Solubility in different solvents**

|         |   |       |   |
|---------|---|-------|---|
| THF     | √ | DMF   | √ |
| Alcohol | √ | CHCl3 | √ |
| Toluene | X | DMSO  | √ |

## Validation of Architecture

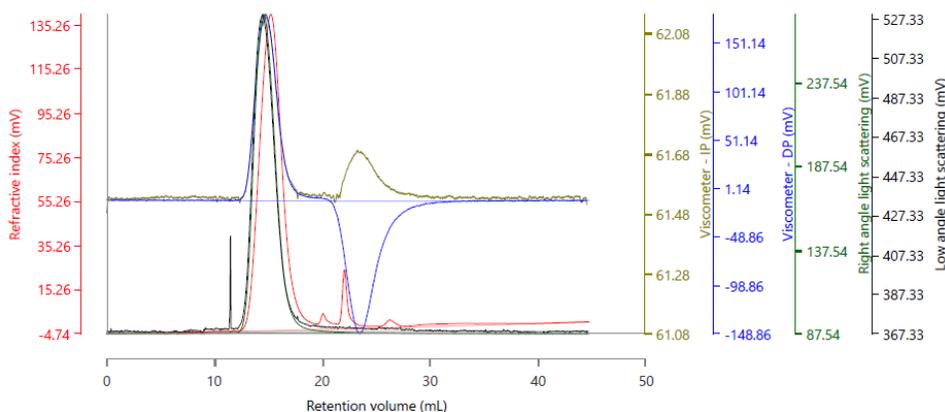
**A. Gel Permeation Chromatography (GPC), SEC- Profile:**

Polymer Source

Malvern Panalytical



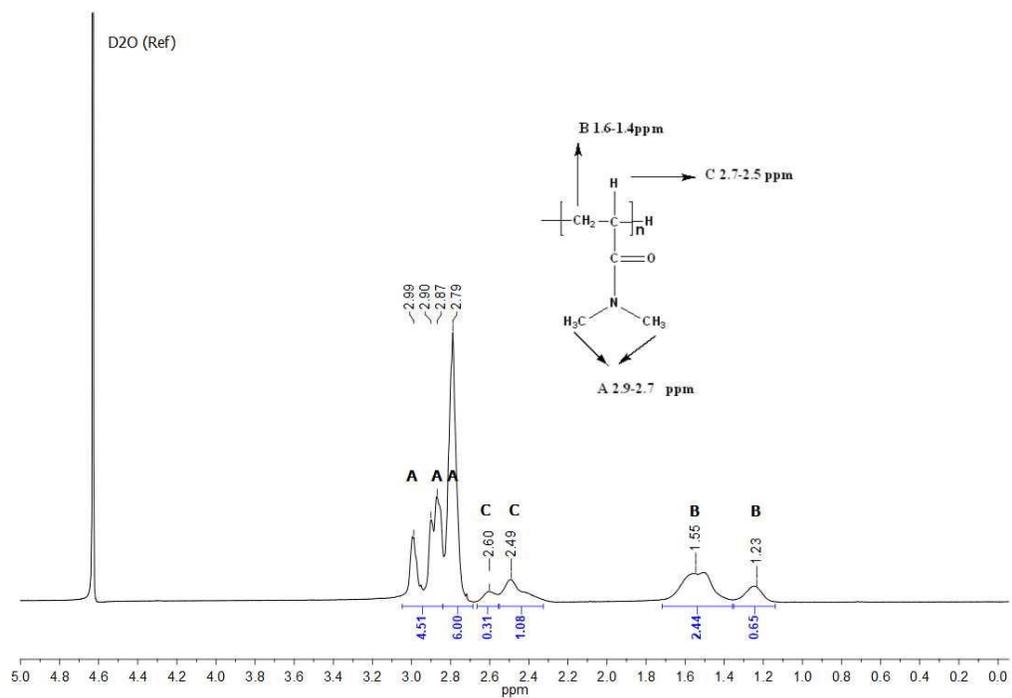
Raw Data Chart



Results (Rows)

| Injection Name                  | RV (mL) | Mn (g/mol) | Mw (g/mol) | Mp (g/mol) | Mz (g/mol) | Mw/Mn |
|---------------------------------|---------|------------|------------|------------|------------|-------|
| P40530F-DMA Injection 1, Peak 1 | 15.22   | 345,897    | 447,455    | 375,595    | 599,079    | 1.294 |

## B. NMR (HNMR) OF PDMA general



## C. Dependence of glass transition temperature (T<sub>g</sub>) of PDMA from its molecular weight:

