

# Product Profile

## Identification

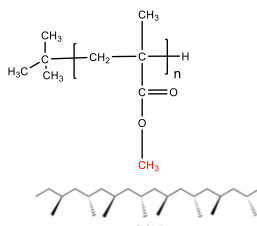
**Product Name:** Poly(methyl methacrylate), atactic (different tacticity ratio)

CAS Number : 9011-14-7

**Product Lot Number:** P45007E1-MMA

**Linear Formula:**  $(C_5H_8O_2)_n$

**Product Chemical Architecture:**



**Composition:**

Mn x 10 <sup>3</sup>	Mw/Mn (PDI)	Microstructure of Polymer by <sup>1</sup> H NMR (syn:hetero:iso)
45.0	2.2	15:50:35

**Method of Synthesis** Using Grignard catalyst

**Solubility in different solvents**

THF	√		
CHCl <sub>3</sub>	√	Acetone	√
Toluene-Hot	√		

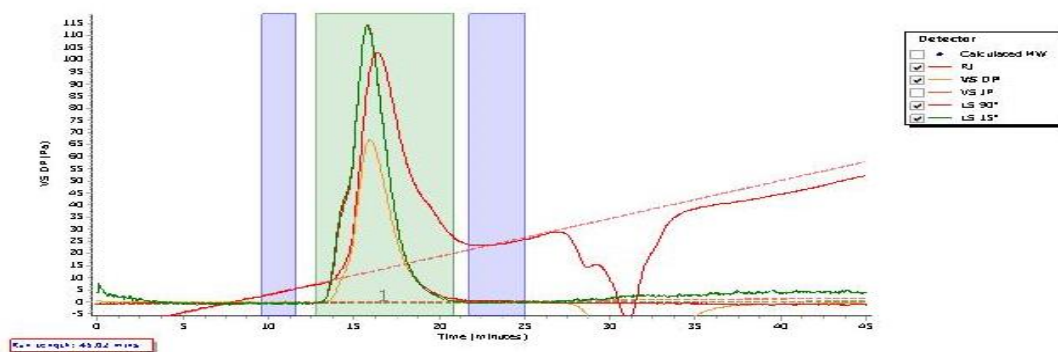
**Purification of Polymer :** By solvent-non solvent process using EDTA and filtration to remove inorganic salt.

**Validation of Architecture:**

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

Chromatogram Plot

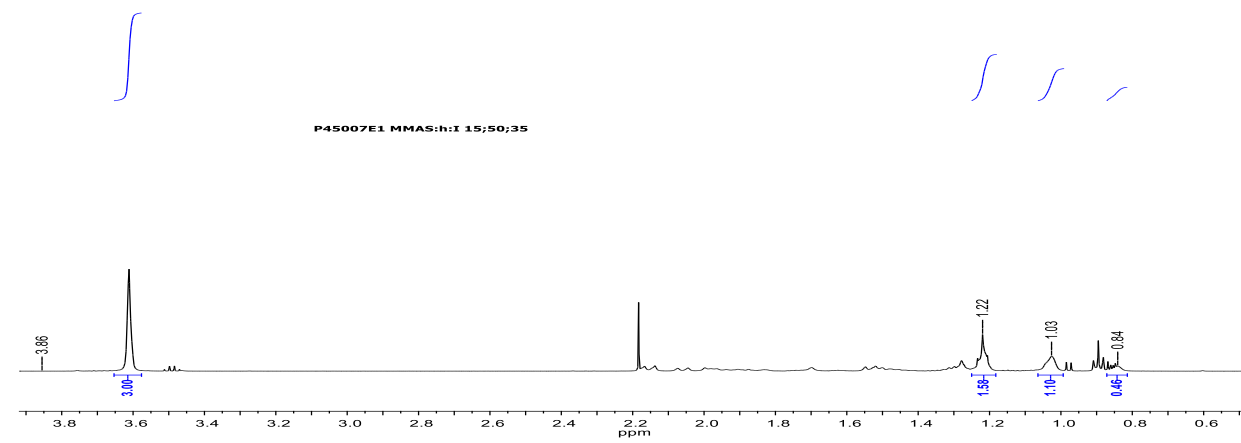
P45007E1-MMA



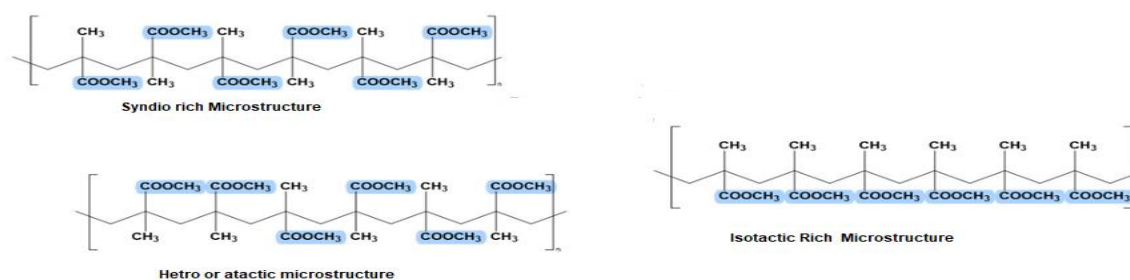
Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	114382	44638	100633	162081	222576	151373	2.254

**B. NMR (HNMR) of polymer:**



**C.**



**D. Summary of DSC results for PMMA of different tacticity:**

<i>PMMA microstructure</i>	<i>Tacticity Syndio : Iso : Hetero</i>	<i>T<sub>g</sub> (°C)</i>
Syndiotactic >79%	79 : 19 : 2	120
Syndiotactic >85%	86 : 0 : 14	123
Isotactic >97%	0 : 97 : 3	44
Atactic	56 : 6 : 38	97