

# Product Profile

## Identification

**Product Name:** Poly(methyl methacrylate), isotactic (iso>syndio>hetero)

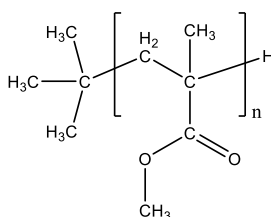
CAS Number: 9011-14-7

**Product Lot Number:** P2075AR-iMMA

*Synonym(s):* Isotactic PMMA, Isotactic methyl methacrylate polymer, Isotactic poly(methyl methacrylate)

**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 (iso:syn:hetero)
44.0	1.15	98: 1:1

**Method of Synthesis** Using Grignard catalyst

## Solubility in different solvents

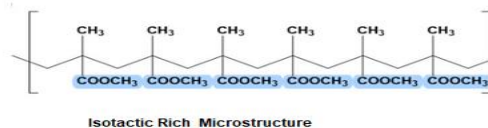
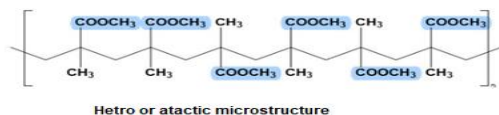
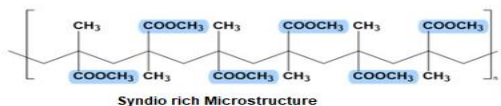
THF	√		
CHCl <sub>3</sub>	√	Acetone	√
Toluene-Hot	√		

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

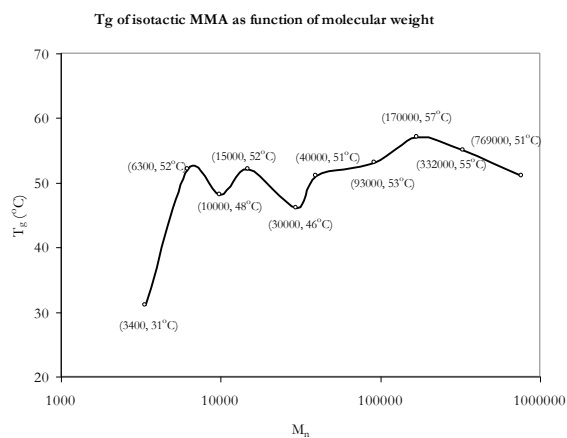
## Validation of Architecture:

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

B. NMR (HNMR) of polymer:



C. **DSC thermogram (2<sup>nd</sup> heating scan, 10°C/min):**



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