

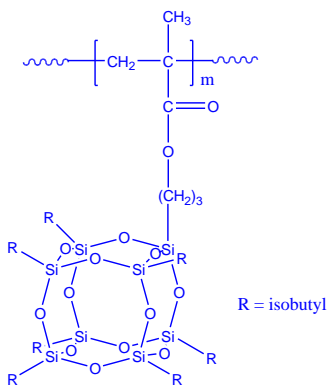
Product Profile

Identification

Product Name: Poly isobutyl Propyl POSS Methacrylate

Product Lot Number: P45177-POSS-IBPrMA

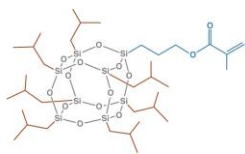
Product Chemical Architecture:



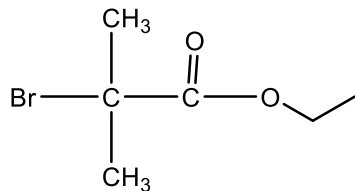
Composition:

Mn x 10 ³	Mw/Mn (PDI)
10.0	1.13

Method of Synthesis: By controlled radical process: Using Methacrylpropylisobutyl POSS monomer.



ATRP initiator:



Solubility in different solvents:

THF	✓
CHCl ₃	✓
Toluene-Hot	✓

Purification of Polymer: Soxhlet to remove unreacted monomer.

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

Chromatogram Plot

P45177-POSSIBPrMA

Chromatogram Plot

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Y-axis: AU 153 (mV)

X-axis: Time (minutes)

Detector Legend:

- ☐ Calc placed MW
- ☒ RJ
- ☒ VS DP
- ☐ VS JP
- ☒ LS 90°
- ☒ LS 15°

Peak 1 is labeled at approximately 24 minutes.

Equation: $R_s = 10.04 \times 10^3; 43.02 = 100$

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	11775	9838	11123	12391	13968	12079	1.131

P45177- POSSIBPrMA

7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0

ppm

A DSC thermogram of poly(2-vinylpyridine) showing heat flow (W/g) versus temperature (°C). The curve exhibits a glass transition at 118.94°C, marked by a vertical line. The heat flow decreases as temperature increases, indicating an endothermic process. The y-axis ranges from -0.36 to -0.48 W/g, and the x-axis ranges from 80 to 150 °C.