

## Hybrid Plastics POSS® MA0735 MethacrylPhenyl-POSS® Cage Mixture

Category: Other Engineering Material, Additive/Filler for Polymer, Polymer, Thermoplastic, Siloxane, Thermoset, Methacrylate

## **Material Notes:**

POSS® Nanostructured Chemical Technology has two unique features: (1) the chemical composition is a hybrid, intermediate (RSiO1.5) between that of silica (SiO2) and silicones (R2SiO). (2) POSS® molecules are physically large ranging from approximately 1-3 nm. POSS® materials are thermally and chemically more robust than silicones and their nanostructured architecture imparts unique properties by controlling polymer chain motion at the molecular level. POSS®-Methacrylates possess a hybrid inorganic-organic three-dimensional structure, which contains from one to eight methacryl groups. The majority of POSS®-Methacrylates contain seven non-reactive organic groups and one methacryl group. While the monofunctional methacrylates can be incorporated into thermoplastics by copolymerization or grafting, the multifunctional methacrylates can be used as effective cross-linkers. They react similarly in polymerization, grafting and cross-linking reactions to standard organic monomers. While reacting similarly to simple organic methacrylates, POSS®-Methacrylates impart significant improvements in the thermal, mechanical, and gas separation properties of traditional plastics. Information provided by Hybrid Plastics

Order this product through the following link:

http://www.lookpolymers.com/polymer\_Hybrid-Plastics-POSS-MA0735-MethacrylPhenyl-POSS-Cage-Mixture.php

Physical Properties	Metric	English	Comments
Molecular Weight	1433.97 g/mol	1433.97 g/mol	

Thermal Properties	Metric	English	Comments	
Decomposition Temperature	416 °C	781 °F		

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