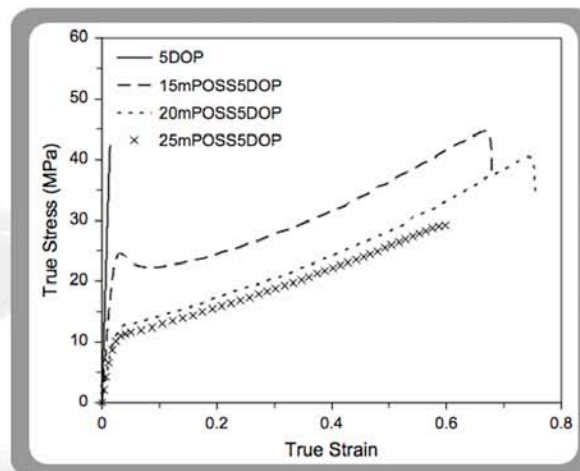
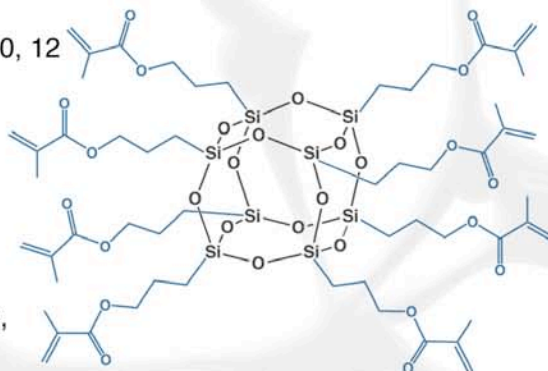


MA0735 for Stronger Plasticized PVC

MA0735 is a hybrid molecule with an inorganic silsequioxane at the core, and organic methacrylate groups attached at the corners of the cage. It is a clear, low viscosity, colorless oil. It is soluble in most polar organic solvents, acrylate and methacrylate monomers, and aromatic and aliphatic resins, but is water insoluble. While slightly soluble in PVC, its solubility can be enhanced with dioctyl phthalate (DOP), a common plasticizer for PVC. MA0735's large molecular weight and cage structure prevent migration and evaporation from the PVC therefore avoiding any loss of plasticizer over time. This allows for the tuning of the mechanical properties of plasticized PVC.

PHYSICAL PROPERTIES

Molecular/Chemical Formula:	$(C_7H_{11}O_2)_n(SiO_{1.5})_n$ n=8, 10, 12
Molecular Weight:	1433 - 2150
Appearance:	clear, colorless oil
Density:	1.20 g/mL
Refractive index:	1.46
Viscosity (@ 25°C):	18 Poise
Thermal Stability (5% weight loss):	386°C
Solvent Solubility:	THF, chloroform, acetone, acetonitrile, ethanol
Solvent Insolubility:	water
Resin Solubility:	aromatic and aliphatic resins

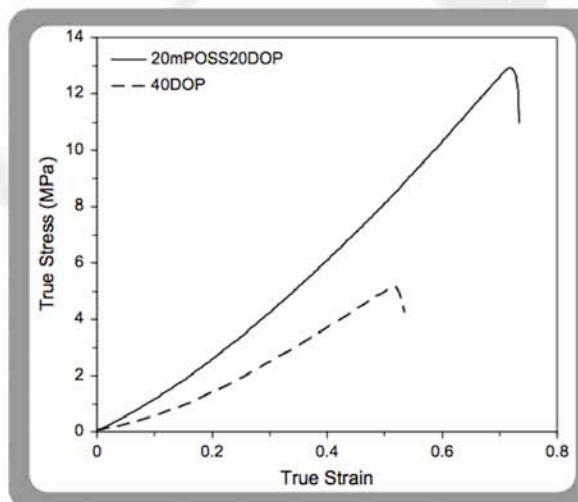


AVAILABILITY

MA0735 is available in R&D and bulk quantities. Contact info@hybridplastics.com for a quote.

WARRANTY

The information contained herein is believed to be accurate and reliable. However, the user is responsible for determining the suitability and use of the final formulations/products. Hybrid Plastics® warrants that its products will meet specifications, but not merchantability or fitness for use.



Increasing MA0735 concentration leads to an increase in the tensile strength of the plasticized PVC

Even when the same total weight percent of plasticizer is used, ternary formulations of plasticized PVC with DOP and MA0735 show better mechanical properties than without POSS.