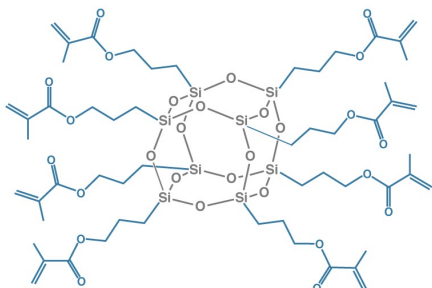


POSS® Nanosilica Dispersion

APPEARANCE

Clear, colorless gel.



APPLICATIONS

Adhesives and coatings that are desired to benefit from reduced shrinkage, scratch resistance, increased durability and high light transmission.

BENEFITS

MA0735 is excellent as a multifunctional rheological diluent. The combination of MA0735 with 30% nanosilica improves the reinforcement, provides an additional functional feature and resolves airborne exposure issues of nanosilica.

TYPICAL PROPERTIES

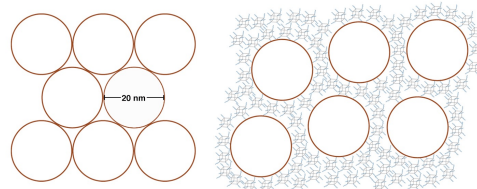
Appearance	Clear, colorless gel
Viscosity (@25 °C)	659 poise
Viscosity (@50 °C)	378 poise
Viscosity (@75 °C)	94 poise
Thermal Stability (5% weight loss)	394 °C
Refractive Index	1.46
Molecular Weight	1433-2150

REGULATORY STATUS

MA0735: INCI, REACH, TSCA, CAS 160185-24-0.
Not a primary dermal irritant.

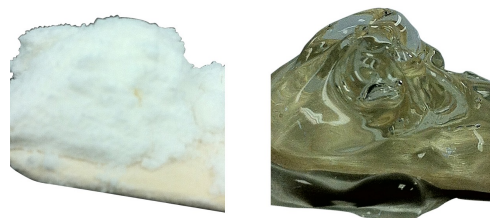
HANDLING PRECAUTIONS

Product safety information required for safe use is not included in this document. Before handling, read product and material safety data sheets and container labels for safe use, physical health and hazard information. For material safety data information, contact Hybrid.



FEATURE 1:

POSS® cages are less than one-tenth the diameter of untreated nanosilica (left); POSS (right) affords nanosilica with increased dispersion and flow properties while maintaining the advantages of nanosilica.



FEATURE 2:

Unlike untreated nanosilica (left), POSS® nanosilica (right) is a gel that helps improve flow and optical properties.

DESCRIPTION

MA4L35.01 is two reinforcing agents in one. MA0735 is a hybrid, 1.5nm molecule with an inorganic silsesquioxane at the core, and organic methacrylate groups attached at the corners of the cage, which acts as a multi-functional crosslinker. At 30 weight percent loadings, 20nm nanosilica is completely dispersed into the MA0735. This creates a clear, colorless gel, which is easily formulated with other coating components.

COMPATIBILITY

Solvents	
THF	Soluble
Chloroform	Soluble
Acetone	Soluble
Ethanol	Soluble
Acetonitrile	Soluble
Water	Insoluble
Aliphatic Resins	
Nearly all epoxy resins	Soluble
Nearly all acrylic resins	Soluble
Aromatic Resins	
Nearly all epoxy resins	Soluble
Nearly all acrylic resins	Soluble

RELATED LITERATURE

<http://dx.doi.org/10.1155/2013/674237>
DOI: 10.1016/j.dental.2004.08.003

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