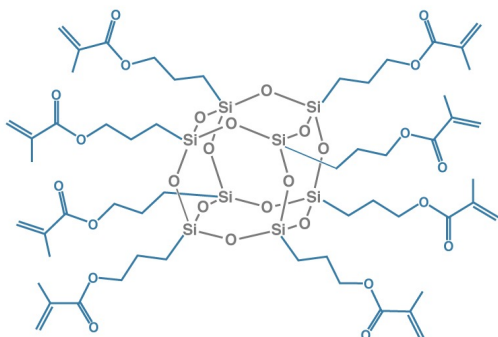


Methacryl POSS®

FEATURES

Clear, colorless liquid oil.



APPLICATIONS

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

TYPICAL PROPERTIES

Appearance	Clear, colorless liquid oil
Viscosity (@25°C)	1.5 - 2.2 Pa s
Density	1.20 g/mL
Refractive Index	1.46
Formula Weight	1433.97
Eq. Weight	179.2
Resin Solubility	Vinyl ester, acrylic, epoxy, urethane

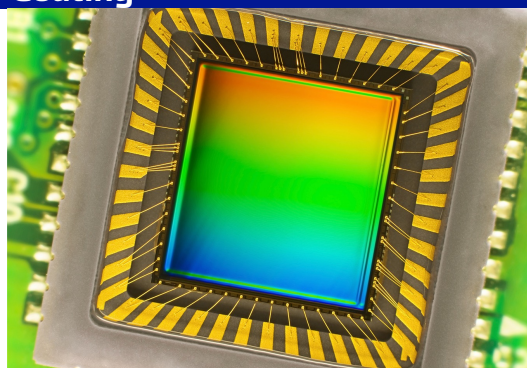
REGULATORY STATUS

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.



BENEFITS

Enhanced adhesion and coating durability while providing 98% light transmission, hardness and impact resistance. MA0735 also compatibilizes nanosilica while providing desirable rheological diluent effects.

DESCRIPTION

MA0735 is a hybrid molecule with an inorganic silsesquioxane at the core and organic methacrylate groups attached at the corners of the cage. MA0735 can provide fast UV stability, enhanced mechanical properties, excellent moisture resistance, increased adhesion and durability.

COMPATIBILITY

Solvents	
iPropanol (70%)	Soluble
PGMEA	Soluble
Aliphatic Resins	
Nearly all epoxy resins	Soluble
Nearly all acrylic resins	Soluble
Aromatic Resins	
Nearly all epoxy resins	Soluble
Nearly all acrylic resins	Soluble

ADDITIONAL ATTRIBUTES

MA0735 is amenable to in situ surface classification via 185 nm UV, oxygen plasma or corona treatments. Upon exposure, the POSS cages convert into a silica surface. This attribute has been utilized for high hardness, silica-like surface coatings and/or bondable tie-layers for coating stacks on polymer film.

MA0735 is also amenable to high resolution patterning and imprint processing methods.

RELATED LITERATURE

1. Anti-refl. Coating. DOI: 10.1039/c3ee24037a
2. PhotoCure Coating. DOI: 10.1021/1a1025119
3. Litho Molds. DOI: 10.1039/C2JM32386A
4. POSS PMMA Copoly. DOI: 10.1002/pen.23921
5. Dimethacrylates DOI: 10.1021/ma051574x

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