

Product Information - HC1020.11

i-Octyl Maleic Acid POSS[®] Cage Mixture

APPEARANCE

Easily handled tetramaleic acid.
White to pale yellow powder.

DESCRIPTION

HC1020.11 is a hybrid molecule with an inorganic silsesquioxane core and organic propylmaleic acid groups for reactivity and *i*-Octyl groups for stability and compatibility.

APPLICATIONS

HC1020.11 is reactive with epoxy, isocyanate, anhydride, and imide chemistry. It provides enhanced hydrophobicity and unique affinity for surfaces. HC1020.11 is adhesive and stable under common use conditions.

In certain applications, the *i*-Octyl groups provide localized plasticization and wetting of non-polar surfaces, along with inherent dispersion capability, also.

As will all POSS additives incorporated into formulation, surface glassification, such as plasma etching, etc allows for mar resistance and use as a bondable tie layer.

CHARACTERISTICS

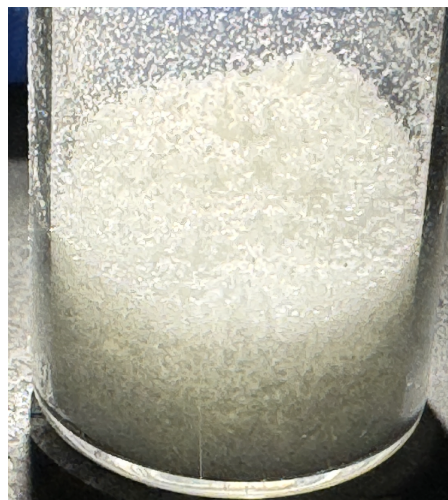
Appearance	white to pale yellow powder
Viscosity @195°C	0.185 - 0.385 Pa-s
Melting Point	190 - 200°C
Refractive Index	@ 20.4 °C
Formula Weight	1494.21
EneEW	373.55 g/eq
Insolubility-	H2O, hexane, PGMEA, epoxy, acrylic, urethane
Solubility-	THF, alcohols
Resin Solubility-	most aromatics

REGULATORY STATUS

Pending, R&D use only at this time.

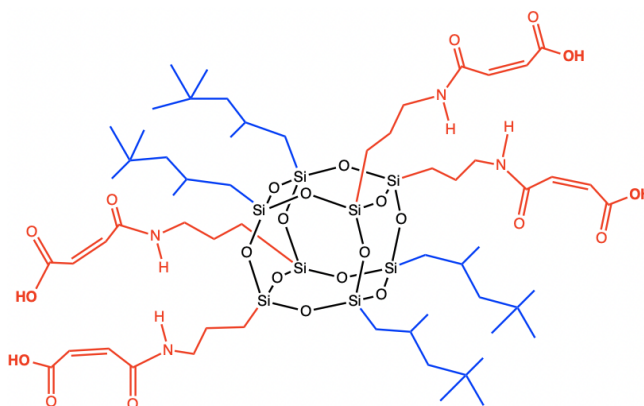
HANDLING PRECAUTIONS

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



PRODUCT BENEFITS

Provides high temperature stability and robust resistance to environmental degradation such as moisture or oxidation and UV C/B absorption.



STRUCTURE AND FUNCTION

Compositionally, HC1020.11 POSS is a mixture of cages having 8, 10, and 12 silicon atoms, along with cage-like oligomers. The stoichiometry is statistically random. This is analogous to copolymers. In the case of POSS additives, it improves their miscibility and minimizes aggregation.

ADDITIONAL INFORMATION

Heteroleptic Cage POSS are represented by the catalog designation HC. The structure shown is idealized and should not be considered exact.

ADDITIONAL MOLAR RATIOS AVAILABLE
upon request at info@hybridplastics.com

www.hybridplastics.com

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