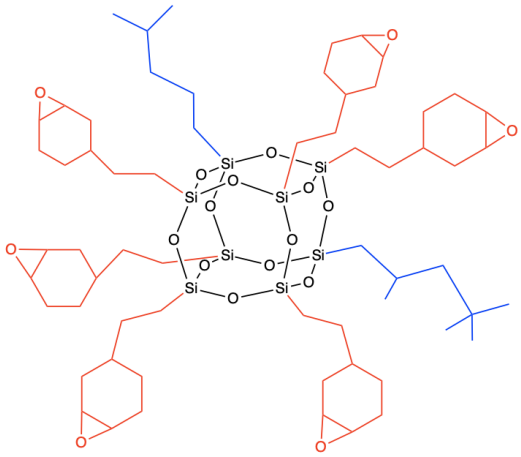
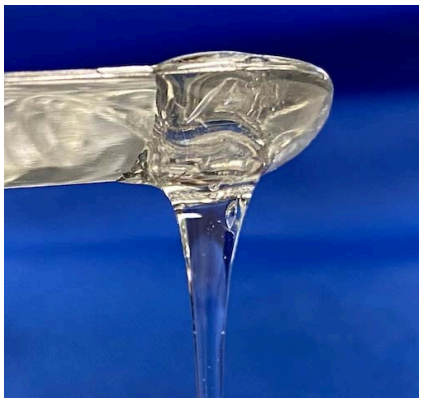
# Product - HC 0310.31

# Cyclohexylethylepoxy i-octyl POSS®

Clear, transparent viscous liquid.





## APPLICATIONS

Adhesives and coatings. Hydrophobicity with crosslinking for cationic and thermal addition cure. Additionally dispersion and plasticization can be realized in certain formulations.

## TYPICAL PROPERTIES

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|---|---|
| Appearance | Clear, light yellow liquid |
| Viscosity | 270-280 Pa s @ 25 °C |
| Viscosity | 40 - 50 Pa s @ 50 °C |
| Viscosity (@25˚C) | 1100 mPa s in 50% *n*-BuAcetate solvent |
| Refractive Index | 1.4943 @ 21 °C |
| Formula Weight | 1380.24 for octamer |
| EE Weight | 230 for octamer |
| Solvent Solubility | clyclohexane, IPA, n-butylacetate, PMEA |
| Solvent Insolubility | water |

## REGULATORY STATUS

R&D use only at this time.
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

UV cationic and addition cure. The combination of reactivity and hydrophobicy provides for interfacial compatibility, and dispersion. The high crosslinking capability in combination with isooctyl provides for resistance to moisture uptake and water repellency while retaining optical transmission.

## DESCRIPTION

Cyclohexylethylepoxy isooctyl POSS® is a hybrid molecule with an inorganic silsesquioxane core and organic reactive groups attached at the corners of the cage. Cyclohexylethyl isooctyl POSS® is a molecular union of both chemistry and inorganic-organic compositions.

## COMPATIBILITY

Cyclohexylethylepoxy isooctyl POSS is highly adhesive and only provided as a concentrate in solvents/monomers and resins.
Cyclohexylethylepoxy isooctyl POSS® is intended to be utilized as an additive. At low additive concentrations compatibility is expected with a wide range of resins and monomers bearing similar chemical functionality.

Compatibility testing is recommended for higher concentrations. Additional information and screening may be provided by Hybrid upon request.

**ADDITIONAL DETAILS** Cyclohexylethylepoxy i-octyl POSS® is a mixture of cages sizes 8, 10, 12. The organic groups are distributed randomly around each cage core. The molar ratio of cyclohexyl epoxy and i-octyl groups is an approximate 6:2.

The distribution of cage size, and functionality around the cage core is analogous to that for functional polymers.

**HC0310.31.13** is a 50% concentrate of HC0310.31 in *n*-BuAcetate. *Often preferred due to the high adhesion of this additive.

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