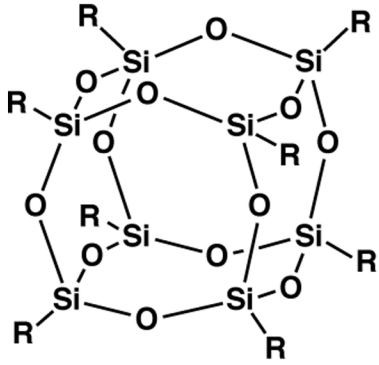
Glycidyl POSS® Cage Mixture **EP0409**

EP0409 is a hybrid molecule with an inorganic silsequioxane at the core and organic glycidyl groups attached at the corners of the cage. EP0409 serves as a high temperature reactive diluent in both aromatic and aliphatic epoxy resin and will increase rubbery plateau modulus. POSS molecules also have robust resistance to environmental degradation such as moisture, oxidation, corrosion and UV radiation. EP0409 is also excellent at dispersing silica particles.



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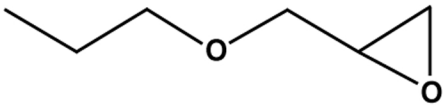


$(C_6H_{11}O_2)_n(SiO_{1.5})_n$ FW 1337.88 D_4^{20} 1.25 n_D^{20} 1.51

n = 8, 10, 12 (n=8 shown)

Refrigerate

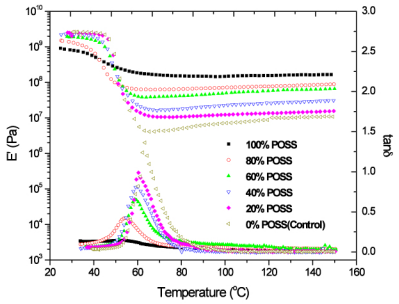
** Cage content ≥ 65%*

HYBRID PLASTICS

EPOXIDES

Key Properties

Epoxy Equivalent Weight: 167
Appearance: Clear, pale yellow, viscous liquid
Viscosity (@ 25ºC): 48 Poise
Thermal Stability (5% wt loss): 365ºC
Solvent Solubility: THF, chloroform, toluene
Solvent Insolubility: water, hexane
Resin Solubility: aromatic and aliphatic epoxy resins



Effect of EP0409 loading on modulus above T_g

Relevant Literature

- Lower residual thermal stress in composites
  JAPS:B 46 (2008) 2719-2732
- Sun protection in greenhouse covers
  Adv. Mat. Res. Vols.113-114 (2010) 2077-2080
- Reduced degredation of polyoxymethylene
  Polymer Composites, Vol. 32, (2011) 1584-1592
- Room temperature VARTM for marine composites
  Polymer Preprints **2008**, *49(1)*, 440

CAS 68611-45-0 **Authorizations:** INCI, TSCA

$80/100g $246/kg