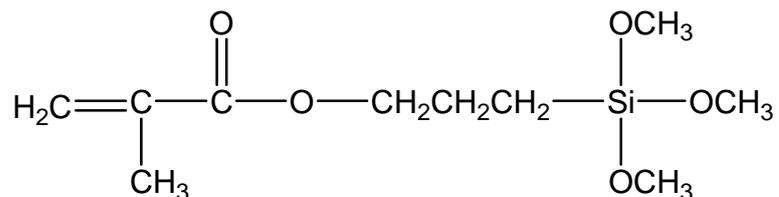


SiSiB[®] PC4100

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gamma-Methacryloxypropyltrimethoxysilane



Introduction

SiSiB[®] PC4100 is a methacryl-functional silane; it is a clear, light and heat sensitive liquid with a faintly sweet odour.

SiSiB[®] PC4100 is used as adhesion promoter at organic/inorganic interfaces, as surface modifier (e.g. imparting water repellency, organophilic surface adjustment) or as crosslinking of polymers). It is used as a coupling agent to improve the physical and electrical properties of glass-reinforced and mineral-filled thermosetting resins under exposure to heat and/or moisture. It is typically employed as a blend additive in resin systems that cure via a free radical mechanism (e.g. polyester, acrylic) and in filled or reinforced thermoplastic polymers, including polyolefins and polyurethanes. It is also used to functionalize resins via radical initiated processes - copolymerization or grafting - and to modify surfaces.

Applications

- Improves strength as glass fiber size composite in reinforced polyester composites.
- Enhances initial and wet strength of reinforced polyester resin composites.
- Enhances the wet electrical properties of many mineral-filled and reinforced composites.
- Crosslinks acrylic type resins improving adhesion and durability of adhesives and coatings.

SiSiB[®] PC4100

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Typical Physical Properties

Chemical Name	<i>gamma</i> -Methacryloxypropyltrimethoxysilane
CAS No.	2530-85-0
EINECS No.	219-785-8
Empirical Formula	C ₁₀ H ₂₀ O ₅ Si
Molecular Weight	248.4
Boiling Point	255°C [760mmHg]
Flash Point	108°C
Viscosity _{25°C}	2 cSt
Color and Appearance	Colorless transparent liquid
Refractive Index	1.430 [25°C]
Density _{25/25°C}	1.045
Min. Purity	98.0%

Solubility

SiSiB[®] PC4100 is soluble in methanol, ethanol, isopropanol, acetone, benzene, toluene, and xylene. After hydrolysis, it is soluble in water with adequate stirring if the pH is adjusted to 4.0. Hydrolysis releases methanol.

SiSiB[®] PC4100 shows copolymerization or grafting reactions when catalyzed by (organic) initiator systems, e.g. peroxides or by radiation (e.g. UV).