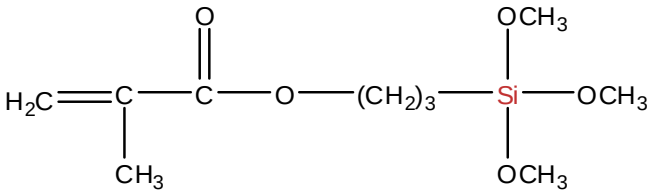
SiSiB® PC4100H

Gamma-Methacryloxypropyltrimethoxysilane

Chemical Structure



Introduction

SiSiB® PC4100H is a methacryl-functional silane; it is a clear, light and heat sensitive liquid with a faintly sweet odour.

SiSiB® PC4100H is used as adhesion promoter at organic/inorgainc 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.

Compared with SiSiB® PC4100, PC4100H is more clear, purity is higher, and Chloride is lower.

Typical Physical Properties

CAS No.	2530-85-0
EINECS No.	219-785-8
Formula	$C_{10}H_{20}O_5Si$
Molecular Weight	248.35
Viscosity $_{25°C}$	2 cSt
Boiling Point	255°C [760mmHg]
Flash Point	108°C
Appearance	Clear liquid
Color(APHA)	Max.10

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Density $_{25/25°C}$	1.045
Refractive Index	1.430 [25°C]
Min. Purity	99.5%
Hydrolyzable Chloride	Max.2ppm

Solubility: SiSiB® PC4100H 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® PC4100H shows copolymerization or grafting reactions when catalyzed by (organic) initiator systems, e.g. peroxides or by radiation (e.g. UV).

Applications

SiSiB® PC4100H can improve strength as glass fiber size composite in reinforced polyester composites.

SiSiB® PC4100H can enhance initial and wet strength of reinforced polyester resin composites.

SiSiB® PC4100H can enhance the wet electrical properties of many mineral-filled and reinforced composites.

SiSiB® PC4100H crosslinked acrylic type resins can improve adhesion and durability of adhesives and coatings.

SiSiB® PC4100H is specially designed as adhesion promoter in EVA encapsulant films for solar PV cells. SiSiB® PC4100H can easily be compounded into the EVA encapsulant film. SiSiB® PC4100H is an excellent solution to adhere the encapsulant to the glass substrates and front sheets.

Packing and Storage

SiSiB® PC4100H is supplied in 25Kg plastic drum, 200Kg steel drum or 1000Kg IBC container.

In the unopened original container SiSiB® PC4100H has a shelf life of one year in a dry and cool place.

Notes

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All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

We specifically disclaim any other express or implied warranty of fitness for a particular purpose or merchantability. We disclaim liability for any incidental or consequential damages.

Please send all technical questions concerning quality and product safety to: silanes@SiSiB.com.

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