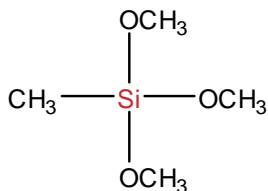


SiSiB[®] PC5131

Methyltrimethoxysilane

CHEMICAL STRUCTURE



INTRODUCTION

SiSiB[®] PC5131, an alkylalkoxysilane is an important component in sol-gel system. It is a colorless liquid. It hydrolyzes slowly in the presence of moisture (methanol is released) to form reactive silanols. These react further to produce oligosiloxanes and then polysiloxanes

TYPICAL PHYSICAL PROPERTIES

CAS No.	1185-55-3
EINECS No.	214-685-0
Formula	C ₄ H ₁₂ O ₃ Si
Molecular Weight	136.3
Boiling Point	102°C [760mmHg]
Flash Point	9°C
Color and Appearance	Colorless transparent liquid
Density _{25/25°C}	0.950
Refractive Index	1.369[25°C]
Min. Purity	99.5% (A Grade) 99.0% (B Grade)

APPLICATIONS

SiSiB[®] PC5131 is highly miscible with standard organic solvents, such as alcohols, hydrocarbons and acetone.

SiSiB[®] PC5131 is practically insoluble in neutral water and reacts only slowly to form silanols and higher condensation products. Addition of a hydrolytic catalyst (inorganic/organic acids, ammonia or amines) accelerates the hydrolysis of SiSiB[®]

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PC5131 substantially.

[Filler Modifier] SiSiB[®] PC5131 is used mainly to render a wide range of surfaces and materials water repellent (e.g. mineral fillers, pigments, glass, cardboard). SiSiB[®] PC5131 may be used pure or in solution to treat fillers, using suitable mixing equipment. It may be necessary to first pre-treat the substrate with water and/or a catalyst.

SiSiB[®] PC5131 is also used in the production of silicone resins and condensation-curing silicone rubber.

SiSiB[®] PC5131 is used as an important component in sol-gel systems.

[Alkoxy Crosslinkers] The most common alkoxy crosslinkers are methoxy or ethoxy silanes due to their high reactivity. The reaction precedes by nucleophilic substitution usually in the presence of acid or base catalysts. Alkoxides react directly with silanols or with water to produce silanols. The newly formed silanols can react with other alkoxides or self-condense to produce a siloxane bond and water. When an acid catalyst is used, protonation of the alkoxy silane increases the reactivity of the leaving group. When a base catalyst is used, deprotonation of the silanol forms a reactive silonate anion. The by-product of the reaction is an alcohol. Common metal catalysts for these reactions are alkoxytitanium derivatives and dibutyltin dicarboxylates.

PACKING AND STORAGE

SiSiB[®] PC5131 is supplied in 190Kg steel drum.

In the unopened container SiSiB[®] PC5131 has a shelf life of one year.

NOTES

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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