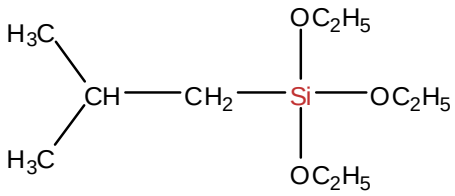
SiSiB® WR0412

i-Butyltriethoxysilane

Chemical Structure



Introduction

SiSiB® WR0412 is high purity, undiluted iso-butyltriethoxysilane. When diluted with an appropriate solvent, it can be used in the formulation of water repellent products. Upon proper application, the formulated product will penetrate and provide water repellency by chemically reacting with the cementitious substrate. Treated substrates are hydrophobic and retain their original appearance.

SiSiB® WR0412 is a small molecule to allow for deep penetration into the construction materials (especially concrete and reinforced concrete) surface. This material reacts with moisture in the air and in the substrate in the presence of an alkaline or acidic environment to produce hydroxyl groups. These hydroxy groups will bond with the substrate and itself to produce a hydrophobic treatment that inhibits water absorption into the substrate. An alkaline environment, such as new concrete, will catalyze the reaction and speed the formation of the hydrophobic surface.

SiSiB® PC5911 is similar to DowCorning's Z-6403 silane, Evonik Degussa's Dynasylan IBTEO.

Typical Physical Properties

CAS No.	17980-47-1
EINECS No.	402-810-3
Formula	$C_{10}H_{24}O_3Si$
Molecular Weight	220.38
Boiling Point	190°C [760mmHg]
Flash Point	63°C
Color and Appearance	Colorless clear liquid
Density $_{25/25°C}$	0.90

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Refractive Index	1.3908 [25°C]
Purity	99.0% by GC

Applications

SiSiB® WR0412 should be diluted in solvents such as alcohols, chlorinated solvents, aliphatic solvents, and low molecular weight cyclic polydimethylsiloxane, such as SiSiB® CF1040 Fluid before use. Typical dilution levels are 40% and 20% SiSiB® WR0412 in a solvent.

Blends of the solvents can also be used. The evaporation rate of the diluted material can be modified depending on the type and concentration of the solvent. Select the proper solvent for your application, as some silane/solvent blends may darken the surface.

Methods of application include airless sprayer, roller and brush. When a brush or roller is used, repeated applications should be made until the surface remains moist for a few minutes. If an airless sprayer is used, application should continue until the substrate is thoroughly saturated. Sprayers should be fitted with solvent resistant hoses and gaskets. A test application is necessary on each surface to be treated to ensure compatibility and the desired water repellent result. Surfaces should be free of standing water, surface dirt, dust, oils, and other contaminants. The formulated SiSiB® WR0412 may be applied to damp surfaces although dry surfaces are preferred to achieve maximum penetration into the substrate.

SiSiB® WR0412 can be used as a surface modifier to generate hydrophobicity and to increase compatibility to organic non polar matrices.

SiSiB® WR0412 can be used as a component for the manufacture of Ziegler-Natta Catalysts.

Packing and Storage

SiSiB® WR0412 is supplied in net weight 180Kg steel drum.

In the unopened original container SiSiB® WR0412 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: support@SiSiB.com.

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