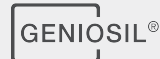


GENIOSIL[®] TPTE

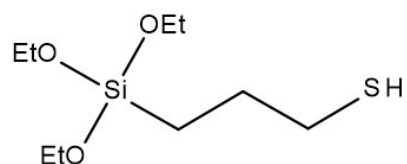


Organofunctional Silanes

3-Mercaptopropyltriethoxysilane

GENIOSIL[®] TPTE is a clear, colorless liquid with a very characteristic odor.

CAS No. 14814-09-6 | Empirical formula $C_9H_{22}O_3SSi$ | Molecular weight 238.46 g/mol



Properties

GENIOSIL[®] TPTE is an alkoxy silane with a Mercapto-functional group. It's a clear, colorless liquid with a characteristic odor. As a bifunctional alkoxy silane, GENIOSIL[®] TPTE can also interact with numerous organic polymers and thus function as a molecular bridge between organic and inorganic substrates.

In addition to its application as an adhesion promoter in formulations and primers, GENIOSIL[®] TPTE functions as a surface modifier in fillers and pigments, where it improves the dispersibility of the filler and the mechanical properties - such as flexural strength, tensile strength and modulus - of the composites. The silane also reduces the filler's sedimentation tendency in the uncured polymer.

Technical data

General Characteristics

Property	Condition	Value	Method
Appearance	-	clear liquid	-
Auto ignition temperature	-	205 °C	-
Boiling point	1013 hPa	235 °C	-
Color number	-	0 - 20	-
Density	20 °C	0.983 g/cm ³	-
Purity	-	> 98 %	GC
Refractive index	20 °C	approx. 1.431	-
Viscosity, kinematic	-	1.8 mm ² /s	-

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Applications

- Chemical Industry
- Industrial Adhesives
- Sealants
- Thermoplastics & Elastomers

Application details

1. General processing information:

GENIOSIL® TPTE is highly miscible with standard organic solvents such as ethers and hydrocarbons.

Mixing with alcohols other than ethanol leads to an autocatalytic exchange of alkoxy groups until the system reaches thermodynamic equilibrium.

Contact with moisture should be avoided during processing to prevent undesired hydrolysis.

2. GENIOSIL® TPTE as a surface modifier:

Fillers are treated either with pure GENIOSIL® TPTE or a solution thereof. It may be necessary to pretreat the substrate with water. The modified filler is preferably bonded to the organic material, e.g. a rubber, by mixing it with a standard curing agent.

In an alternative procedure referred to as "blending", GENIOSIL® TPTE is added directly to the polymer - either before the organic materials is compounded with the filler or at the same time.

A prerequisite for the blending process is that GENIOSIL® TPTE and the polymer are compatible and that the resin and GENIOSIL® TPTE do not react prematurely.

3. GENIOSIL® TPTE as an adhesion promoter in formulations:

In silane crosslinking formulations, GENIOSIL® TPTE may be added to the formulation as an adhesion promoter.

Processing is effected by means of standard mixing methods. Usually, about 1 - 2 wt % silane is added to the formulation.

GENIOSIL® TPTE is used mainly as an adhesion promoter in elastomers, sealants, adhesives and coatings, and as a surface modifier for fillers (e.g. silica, glass, mineral wool, mica, metal oxides) and pigments.

Packaging and storage

Packaging

GENIOSIL® TPTE is currently available in the following packaig units:

- 0.5 KG Bottle
- 200 KG drum
- 1.000 KG IBC
- 23 to Tankcontainer

Storage

The 'Best use before end' date of each batch is shown on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

QR Code GENIOSIL® TPTE



For technical, quality or product safety questions, please contact:

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productinformation@wacker.com, www.wacker.com

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