

# GENIOSIL<sup>®</sup> VTM

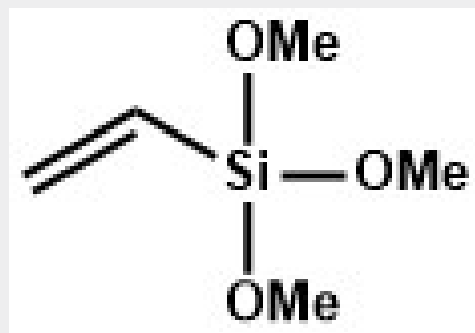
GENIOSIL<sup>®</sup>

## Organofunctional Silanes

Vinyltrimethoxysilane

GENIOSIL<sup>®</sup> VTM is a clear, colorless liquid with a characteristic odor.

CAS No. 2768-02-7 | Empirical formula C<sub>5</sub>H<sub>12</sub>O<sub>3</sub>Si | Molecular weight 148,23



## Properties

GENIOSIL<sup>®</sup> VTM is a vinylalkoxysilane. It hydrolyzes in the presence of moisture (methanol is released) to form silanols, which can then react with themselves to produce siloxanes. Due to the speed of the hydrolysis reaction, GENIOSIL<sup>®</sup> VTM is often used as a water scavenger significantly increasing the storage stability of moisture-curing adhesives and sealants. Used as a co-monomer in polymer dispersions, GENIOSIL<sup>®</sup> VTM leads to crosslinked binders with improved adhesion to the substrate and thus increased scrub resistance.

## Technical data

### General Characteristics

Property	Condition	Value	Method
Boiling point	1013 hPa	122 °C	-
Density	-	0.97 g/cm <sup>3</sup>	DIN 51757
Ethyltrimethoxysilane	-	≤ 0.8 %	-
Ignition temperature	-	240 °C	DIN 51794
Methanol	-	≤ 0.3 %	-
Purity	-	≥ 98.5 %	GC
Refractive index	25 °C	1.391	-
Tetramethoxysilane	-	≤ 0.6 %	-
Viscosity, dynamic	25 °C	0.6 mPa·s	DIN 51562

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

- Adhesives
- Building & Construction Adhesives
- Chemical Industry
- Composites
- Industrial Adhesives
- Industrial Coatings
- Primers for Paints & Coatings
- Sealants
- Thermoplastics & Elastomers

## Application details

### 1. General processing information

GENIOSIL® VTM is very good miscible with typical organic solvents like e.g. toluene or acetone. Mixing with alcohols other than methanol leads to slow equilibration until the thermodynamic equilibrium is achieved. Addition of catalysts (e.g. acetic acid) can significantly accelerate this reaction. Under influence of moisture especially in the presence of such catalytically active substances hydrolysis accompanied by formation of methanol occurs quickly followed by condensation and formation of siloxanes.

### 2. GENIOSIL® VTM as an additive in silane-crosslinking formulations:

In silane-crosslinking formulations (e.g. silane-terminated polyethers, polyurethanes and polysiloxanes), GENIOSIL® VTM is mixed into the formulation as an additive to prevent premature crosslinking due to traces of moisture. Processing is effected by means of standard mixing methods (e.g. paddle agitator, highspeed stirrer, kneader). GENIOSIL® VTM can be added before or during incorporation of the polymer. The amount added will depend on the water content and pre-treatment of the components; usually around one percent by weight is required.

### 3. GENIOSIL® VTM as a co-monomer in polymer dispersions:

To incorporate GENIOSIL® VTM in organic polymer dispersions by way of co-polymerization, it is added as co-monomer – along with typically used monomers (e.g. ethylene, vinyl acetate, styrene, acrylate) and free radical initiators (diazocompounds or peroxides) – during production of the emulsion polymer.

### 4. Grafting of GENIOSIL® VTM to polyolefins:

The radical grafting of GENIOSIL® VTM to polyolefins, such as HDPE and LDPE, is typically effected via reactive extrusion, using peroxides as catalysts. Usually, 1 - 2 wt % GENIOSIL® VTM is required, expressed in terms of the polyolefin. Polyolefins grafted with GENIOSIL® VTM are moisture-cured after molding.

## Packaging and storage

### Packaging

Information on available container sizes is obtainable from WACKER subsidiaries.

### 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® VTM



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

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